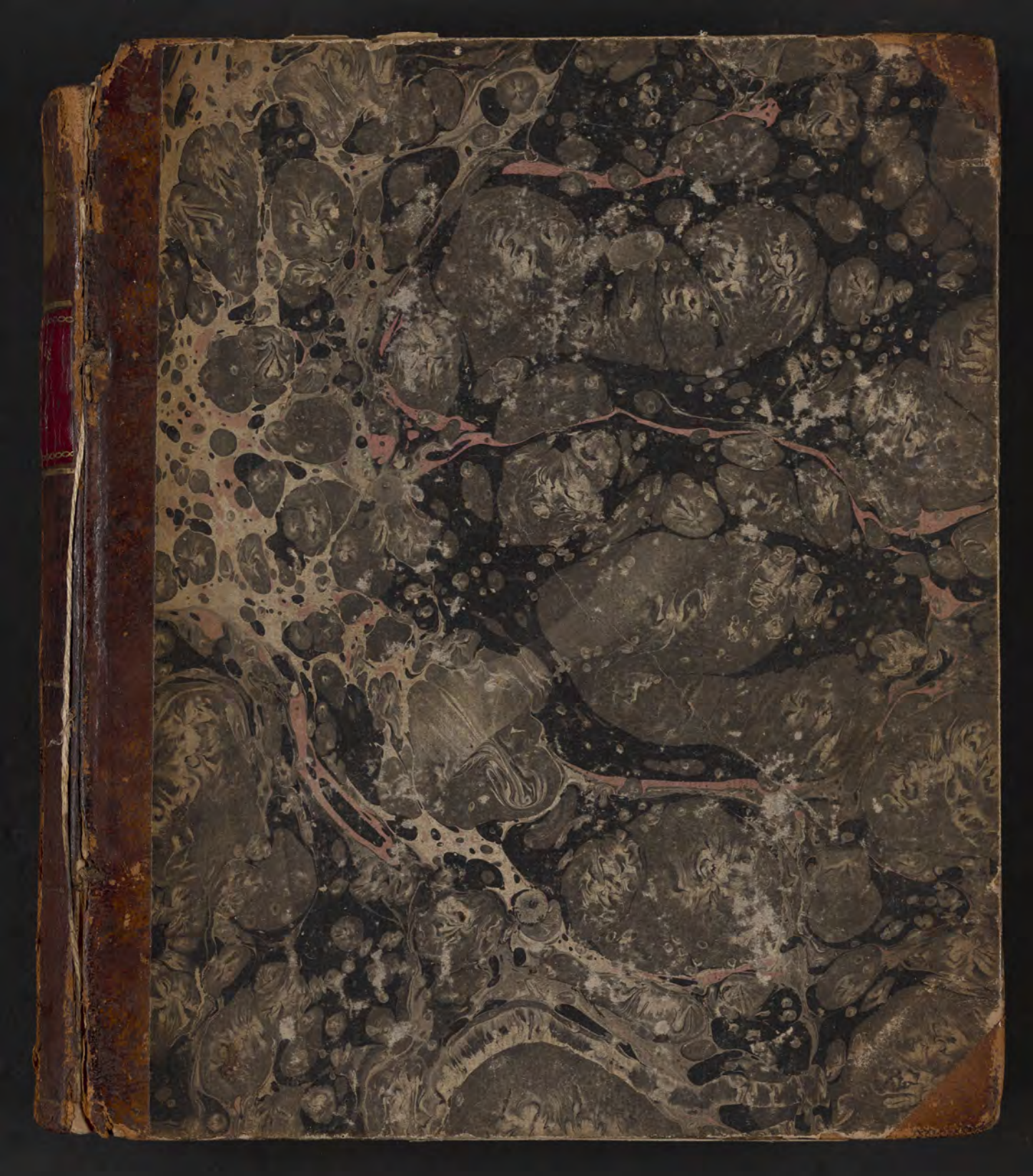


Of Inflammat^n

In Technical language inflam^n might be defined to be "that state of a part whose sensible effects are heat, swelling redness, throbbing & pain. —

There is nothing perhaps more necessary to the Surgeon than a knowledge of the principles of inflam^n, for as there is a certain degree of it w^h is exactly necessary to restore diseased parts to their healthy action, so there are likewise other grades w^h are incapable of performing this restoration, — as where inflam^n is too violent or too weak. Of course then a knowledge of its principles, & also of the appearances w^h it has in performing the restoration of diseased parts, is absolutely necessary to the Surgeon —

The term inflam.n was given to this process by the Ancients for the supposition that there was an accumulation of fire in the part inflamed; & altho' this Idea is altogether incorrect, yet the term answers very well to express our ideas of that particular operation.

The simple act of inflam.n is not in itself necessarily a disease, for disease uniformly tends to the destruction of a part, whereas inflam.n is often necessary to the restoration of injured parts; & unpleasant consequences frequently result for an absence of it. As a large orifice in b.f. in pulling a tooth, in Hydrocele &c. It may however be connected with disease, or not, i.e. Inflam.n is either healthy being only an increase of the natural action of the part; or to this increase it may add a peculiar action, an instance of w.h we see in Scrofula, Cancer, & Syphilis.

Frequently improper treatm^t is the result of ignorance of the Symptoms w^h a violent inflam^n leaves behind it – thus I knew a case of Sprained Ankle w^h after the inflam^n had abated was very weak; Medical assistance was called. the Physician prescribed Tonic remedies w^h threw the Patient into a Hectic fever

An inflamed part performs its functions with difficulty. an instance of this we see in the eye. w^h when violently inflamed looses the power of vision – or if the eye be moderately inflamed it performs its functions with difficulty. particularly if it be on internal parts – the joints also when inflamed perform their functions with stiffness & difficulty

Inflammat^n is divided into Healthy & Diseased. the first of these shall now claim our attention –

The Healthy inflam^n always commences with an increased sensibility of the part hence the pain often attendant on light impressions. — Parts devoid of sensibility in the healthy state, are often acutely sensible in the inflamed, this is evident in Tendons & in bones

If the inflam^n be in the skin, itching is generally the first symptom. It assumes a pale red colour, heat, a dull throbbing pain succeeds, w^h is sometimes very acute, & the functions of the part are performed with difficulty

The Remote Causes of inflam^n are irritation applied either Chemically or Mechanically

The Chemical are heat, cold, Caustics acid substances &c

The Mechanical are wounds, Bruises, Contusions, ligatures, violent exercise &c

The Proximate Cause has been the

subject of much unsuccessful disquisition — Galen attributed it to a superabundance of the humour sanguineous. Boerhaave ascribed the proximate cause to an obstruction in the small vessels occasioned by a viscosity or lentor in the blood — Cullen more justly observes that it is owing more to an affection of the vessels than to a change in the fluids —

Inflam.n does not immediately follow the application of its cause, it is frequently 6, 8, 12, or 24 hours before it takes place —

The same remote cause at will at one time excite one kind of inflam.n will at another time & in the same constitution produce a different one — thus the same cause will produce Erysipelas at one time & Phlegmon at another; & from a peculiarity of habit, or a particular idiosyncrasy the same cause will in different persons produce different kinds of inflam.n, I we

may add too different degrees of it. This remark is of great importance in practice, it shd. guide us in our opinions of accidents, & warn us in the performance of operations; for some are predisposed to hemorrhage, others to suppurative inflamn. & of wh. Dr Physick mentioned several cases.

Different remote causes have been supposed to give rise to different kinds of inflamn., but it is more probable the difference is more owing to the subject or part to wh. the cause is applied, than to the remote cause; for the same remote cause will produce Erysipelas in the face, & common inflamn. in other parts. Dr Smith has supposed that the same cause will in different parts or in parts of dissimilar structure always produce their specific inflamn. but this is highly erroneous, for if this was the case, in the Amputation

of a limb, adhesive inflam^{n} w^{d} be produced in the Cellular membrane, Erysipelatous in the Skin, & suppurative & ulcerative in the Muscles, the bones &c — But we know that these do not take place, for the adhesive takes place in all these parts when they unite.

When parts unite by the first intention no inflam^{n} takes place, as the parts are agglutinated by the Coagulated blood. —

Fever is sometimes the remote Cause of inflam^{n} as in Critical abscess. In Phlegmonic inflam^{n} when suppuration takes place it is called a Critical abscess

The effects of remote Causes in producing inflam^{n} are varied very much by habit & Constitution — thus the handling of an Oar, or the pulling of a rope w^{d} excite inflam^{n} in the hands of a fine Gentleman, but w^{d} make no impression on those of a Sailor — If a person unaccustomed to a high degree of heat or Cold will

bear much less of either than one who is daily exposed to it —

Healthy inflam^n is very properly divided into several stages — These are the Adhesive, Suppurative & Ulcerative, for as we have said before, a diseased inflam^n is that accompanied by some peculiar action, but these stages are only different degrees of violence of the natural action —

I It is called adhesive inflam^n when that degree of it only is excited w^h is necessary to restore divided parts — Coagulating lymph is thrown out of the vessels affected w^h becomes the bond of union

II Suppurative inflam^n when the vessels secrete pus &c

III & Ulcerative when an ulcer is formed. —

Of Adhesive Inflam.

This is an increased action of the vessels causing an extravasation of Coagulating lymph wh forms the nidus of future membrane & vessels. It begins in the small vessels & spreads fm the point affected over a larger surface, & is always greatest at the point where it commences. The diameter of the vessels is enlarged as has been demonstrated by the experiments of Mr Hunter on the ears of rabbits. Their action is also increased, they throw out Coagulable Lymph, this & the enlarged vessels causes the swelling. There is also a more copious flow of blood thro' an inflamed than thro' a healthy part.

That the action of the vessels is increased is proved fm the pale red surrounding an inflamed part — for if the action of an inflamed part were decreased a purple or dark co-

lour wh ensue, as we see in ligatures Gangrene &c. — It has been said that the quantity of blood is not greater wh flows thro' the vessels, but that there is a weakness, but this will not explain the pale redness, for we know that in Gangrene, or in an approach to it, the part is dark & the adjacent vessels are of a bright colour; now it is admitted that there is a weakness in the gangrenous part.

In adhes: Inflamn the matter wh forms the union is Coagulating lymph the red globules are likewise thrown out but they are again absorbed — the swelling of inflamed parts is the effect of the effusion of Lymph & Serum, & also the thickening of the coats of the vessels. — The swelling is always greatest at the point where the inflamn commences — The pain is produced by by the spasm or convulsive action of the Vessels

& circulating

in the same way as in Cramp, Tetanus &c. or it is caused by distention.

When inflam^n^ precedes gangrene the parts are of a purple colour. — The Temperature of an inflamed part is increased but never above the standard temperature of the body, for the thermometer when applied to the inflamed part ascends no higher than when applied to other parts.

The Matter secreted in the adhes: state of inflam^n^ is Lymph, Serum, & a small quantity of red globules. The Coagulable Lymph as we said before forms the nucleus of future membrane & repels it is changed in passing thro' the inflamed vessels, for if it be thrown out on the internal surface of a vein it refuses to mix with the Coagulating mass & remains on the inside.

The Effects of adhes: inflam^n^ on the constitution varies accord^g^ to the part

affected, the quantity inflamed, & the degree of violence. — It is attended with little inconvenience when situated on the skin — But when it occurs in condensed hard bodies, as the end of a tendon &c. it occasions the greatest pain, & generally fever. Violent & extensive inflam^n is generally attended with a considerable degree of symptomatic fever, the pulse is hard, full & frequent, & the blood drawn is sizy — Many inflam^s however are not attended with symptomatic fever &c.

The effects of this inflam^n on the constitution are also according to the predisposition, in some very irritable habits terrible effects are the consequence as in the follow^g case

A man aged 36 y^rs received a bruise on the leg by the fall of a bar of iron

on it — Inflam^n came on, I was called to see him, his body was in a tremor, his extremities cold & clammy, his Pulse small & quick, his strength much reduced — By a dose of Laud: & the application of it to the injured part he was cured — I have seen death produced in this way by the inflam^n of lacerated wounds —

This inflam^n often terminates spontaneously in wh case it is termed spontaneous resolution or adhesion. This process is effected by the extravasated Lymph being absorbed & the action of the vessels becoming natural. —

In glandular parts the lymph is often not absorbed when the inflam^n ceases Tumours frequently occur in the breasts of women, & likewise in the throat called Scirrous Tonsils, wh are produced by the effects of simple inflam^n & this lymph not being absorbed when the inflam^n —

action ceases — In such cases the lymph wh is thrown out becomes vascular forming a part like the Original substance of the gland. — This process takes place in glandular swellings & forms what is called Schirrus tumours — by this it appears that there is no Cancerous tendency in the blood. — We make this remark only because the term Schirrus is usually connected with the first stage of Cancer for a hardness of the gland usually precedes it; but the Hard tumours from unabsorbed lymph does not necessarily produce Cancer —

This inflam.n also terminates by the secretion of serum. If there be a secretion of any fluid from the part inflamed, the inflam.n does not run so high. Blisters wh run well are more easily cured than those wh do not —

It is highly probable that inflam^n of the Brain terminates by abscess called Hydrocephalus Internus, & of the chest by forming Hydrothorax &c

All inflammations are frequently removed by fever —

Hemorrhage also sometimes terminates inflam^n wh^n I shall illustrate by the follow^g case. —

An obstinate inflam^n of the eye wh^n resisted V.S. & all the other usual remedies, & consequently perplexed me not a little, while in this situation the patient accidentally burst an artery in the eyelid fr^m wh^n I permitted nearly a quart of blood to flow, & after this a complete cure of the inflam^n ensued. —

I have seen an incurable case of Fistula in Ano fr^m the neglect of bleeding in the inflam^y stage. —

If inflam^n is not resolved by some

of these means, it proceeds on to suppuration, but this shd be guarded against by the interposition of proper remedies

When seated in dangerous parts it shd always if possible be reduced — But there are cases however when this shd not be attempted &c

1 In very warm weather when Tetanus is to be dreaded; a generous diet and cordials in this case shd be given —

2d If occasioned by a constitutional disease as fever — An exception to this is if the critical abscess may take place in various parts of the body, as for example if it shd occur in the buttocks, near the anus, in the eye &c &c

I have seen very serious consequences follow a critical abscess near the anus only because the Physician wd not have the inflamn discussed under the idea that it was a salutary evacuation this error

takes its rise from the idea of morbific matter.

3d If it tends to the removal of any worse disease, & if this disease exists in any important part the resolution shd never be attempted — That kind of succeeds accidents when in a high degree shd be abated but some inflamn is necessary to the restoration of a part.

Treatment. To effect a cure in the first place, the remote causes shd be avoided

IIdly We shd remove the inflamd action that the parts may take on a natural & healthy one, & this is to be attempted by two kinds of remedies viz Constitutional & Local.

The Constitutional are low diet, V.S. Purging, Diluents, Antimonials &c

1st Low diet — Food & drink shd be

abstained fm It tends to empty the B' vessels. The diet shd be boiled rice gruel &c the drinks, simple water or Barley water

II B'letting — This is the most powerful remedy in inflamn reference being always had to the age & constitution of the Patient & to the State of inflamn — Since inflamed vessels are under the necessity of contract to accommodate themselves to the diminished volume of blood, & as contractn is a very different action fm inflamn it allows the parts to take on a natural action by diverting it fm an inflamd one —

Blood letting acts in two ways

1 It removes the stimulus of distention by lessening the volume of blood itself — &

2d By the contraction of the vessels allowing them to take on a healthy action.

IIIrd Purging. — This acts similar to V.S. & probably by lessening the contents of the bowels — But when they produce

Nausea they act Sympathetically. Purging is inconvenient where much rest is required as in Fractures, in wh case reliance is to be placed on the lancet, low diet & gentle laxatives for the purpose of keeping the bowels moderately free

IV Rest is highly serviceable, the whole body shd be kept quite still & the room of a moderate temperature & at the same time a strong light shd be excluded

V Cool air, Nitre, Sal Ammoniac & Glaubers Salts have been recommended — antimonials have sometimes been joined with them. They have the effect of producing perspiration wh is a salutary action in inflamn whether local or general.

VI Mercury. In inflamn of the eyes wh resisted all other remedies I have seen mercury exhibited so as slightly to affect the mouth of the greatest advantage

VII Diluents as Barley water Tamarind

water &c. The Local remedies are

I Bleed ⁹ fm the affected parts by Scarifications cups & leeches but if fever be caused by the inflam^n general V.S. shd always be premised

II Cold applications as Water or Ice this th^d only be resorted to when the heat becomes disagreeable & then only in a degree sufficient to remove the sensation of pain & give the patient ease, for if it be carried too far it becomes injurious by acting as a stimulus

III Vinegar, Sal ammon: the preparations of lead, diluted Sp^s of Wine & Laud: are useful

IV Poultices, these are either simple or medicated. — the simple are bread & milk alone, Flaxseed &c. the medicated are the simple united with some of the foregoing articles

V Blisters are often an invaluable local remedy, applied directly over the inflamed part or in its vicinity – Blisters ought be applied when you are fearful of too great evacuation – They produce resolution by the evacuation of serum – They are useful when we are apprehensive of Tetanus – In warm weather perhaps the depleting plan is oftenest contraindicated here with peculiar advantage the blisters are used – for here so far as the depletion being made at the expense of general debility there is a stimulus to the system accompanying their action – Besides when the depleting generally has been tedious, the local application of a blister has relieved in a few days

I shall conclude the adhesive stage of inflam^n by a few observations on its evident good effects

I It heals wounds by the first intention

II It Abscesses the cells of the adjacent

cellular Membrane are united by its w^h prevents the escape of pus. It thus stops the further progress of the inflam^n.

III Cysts are formed for the lodgement of extraneous matter such as balls shot &c It is surprizing with what tenacity the bodies are often held in those Cysts

IV In abscesses of the liver or any viscus, the pus in its passage to the surface of the body is prevented being effused into the Cavity of the abdomen or any other Cavity by the adhesion of the affected part of the viscus to the parieties of the Cavity. It thus affords a safe evacuation to the contained matter.

V Inflamed surfaces are prevented from suppurating by the adhesion w^h is formed - E.g. the Pleura - vein in bf &c

Suppurative Inflam^n

The suppurative state of inflam^n is that in wh^h the Bloodvessels secrete pus this takes place when the ad: inflam^n is so violent as not to admit of resolution, or when the remote causes cannot be removed it proceeds on to the second or suppurative stage; & also when the injury received prevents the approximation of the parts of a wound. —

The contact of air to internal surfaces has been supposed to produce inflam^n I once heard a Professor say that he thot the action of air occasioned inflam^n in the Chest in a case where the Pleura was punctured by a red hot iron — Notwithstand^g the violence of the act he ascribed the inflam^n to the action of the air — Some Surgeons are so very apt to have this in view that they neglect the proper application of bandages

But we may assert that air is perfectly innoxious — this was proved by Mr Hunter, & I have made an experiment wh leads directly to the same Conclusion. I injected air into one of the Cavities of the Pleura of a Kitten & closed up the wound. in this state the animal remained for 3 days without any remarkable alteration; it was then suffocated & upon examination no difference in the appearance of the 2 Cavities could be discerned. — To this we may add, that if air possess that irritating quality ascribed to it by some, may it not be asked why in Emphysema we have no inflamn? We mention these things to shew that the effects of air are not so noxious as is often supposed, to prevent Surgeons from hurrying too much in closing up a wound with a view of keeping out the air.

The Suppurative inflamn is charac-

terized by an increase of pain, there is also an increase of redness, swelling and throbbing — After the formation of pus the pain abates the parts become softer, & at length a fluctuation is evident upon the application of pressure, & an abscess is formed, wh may be defined "a circumscribed tumour containing pus — Altho' the pain abates after the formation of pus yet the soreness continues — If the collection of pus be large it is attended by rigors & shivering wh is commonly succeeded by fever. — Sometimes no fever but cold clammy sweats seem to take its place wh symptoms are often removed by the discharge of the Pus. —

If the pain be very great, it may be removed by Opium, a poultice of bread and milk &c — Opium will be more effectual if combined with large doses of Emetics

In a fatal termination of suppurative inflam wh more certainly occurs if the

constitution be weak, there is generally a superveention of Hectic fever, for the powers of the constitution being unable to overcome the local irritation; as when the fever is brot on by ulcers, or by affections of the tendons or ligaments, or any of the vital parts.

Symptoms of Hectic. Great lassitude & weakness, loss of appetite or preternatural appetite – the pulse is small, quick & frequent. the disease assumes the form of a remittent having exacerbations in the evening – these are followed by copious perspirations – the Patient is constantly much disposed to sweat. & perspiration breaks out at any time of the day when he sleeps – this fever commonly commences with costiveness. & terminates with general debility emaciation & Diarrhoa – the urine is high coloured & copious depositing a lateritious sediment & often a cough – Hectic fever is produced by the sympathy of the constitution with the suppurating surface

Physicians have differed with respect to the cause of this fever. it is generally attributed to the Absorption of Pus, but that this Opinion is highly erroneous we will make evident from the follow^g observations —

I Hectic fever very generally attends the inflam^n of the vital parts, where in many instances no pus is formed. It also often attends inflam^n before the formation of pus as white Swelling &c

II If this theory were true no person with a large ulcer could escape Hectic fever. Now we know this not to be the case

III Hectic fever in many instances, is not produced, altho' large quantities of pus were certainly absorbed, as in cases of large bubboes where the pus they contained were absorbed

IV Hectic has often been relieved or cured by opening issues, or by blisters in different parts of the body from the seat of ulceration. Here the surface of absorp^n is in-

created & more pus is absorbed, but instead of Hectic being produced, it is often relieved.

V Amputation often cures Hectic tho' the quantity of pus formed & absorbed from the stump greatly exceeds the quantity that could have been absorbed from the whole swelling, ulcer, or whatever produced the Hectic

The Treatment of this state of inflamn is to be attempted by the absorptn of the Pus, or if that be impossible by evacuation. When suppuration is attended with great pain, Opium combined with small portions of an Emetic so as to produce a determination to the skin will be found to afford great relief —

Where neither the absorptn or artificial evacuation of the Pus is to be attempted, the only treatmt necessary is to apply a simple poultice of bread & milk to the part: if this does not promote suppuration, at least it softens the part & lessens the pain.

The most happy termination is by absorpt^n & of course it is desirable to find med: that will promote this absorpt^n — Many remedies have been employed with this view, & particularly the follow^g — viz

Emetics & Nauseating Med: has been known to produce this effect. The matter of Bubo has been absorbed by vomiting occasioned by sea sickness —

2^d Blisters promote absorpt^n by irritating & increasing the action of the Lymphatics of the part

3^d V.S. Purging & low diet have all been of benefit. I have known a collection of Pus in the Anterior chamber of the eye cured by these means, together with the exclusion of light &c

After the formation of an Abscess some particular part becomes soft & happy & very prominent, (or in common language points) & in a short time after breaks — this is mostly

& losing their life &

effected by the parts beneath, sloughing away — It is most prudent generally to wait for a spontaneous opening, but when this is protracted too long, it becomes necessary then to make an artificial opening

There are several circumstances wh. require this method to be early resorted to —

I When the fluctuation has been long distinctly perceptible, there is no disposition to discharge naturally, a puncture is advisable? —

II It is also necessary when the pus is deeply seated & covered with soft parts. I very much doubt the existence of those external applications called drawing wh. are supposed to accellerate the progress of pus to the surface, such as oil, saccharine substances &c — they have gained their credit by being applied just before the spontaneous rupture of the abscess

III.d If the abscess be seated on or

near large cavities, as the Thorax or Abdomen, for if the abscess refuse to open spontaneously, pressure being equal on all sides, the pus might be effused into either of the aforementioned cavities & produce fatal consequences.

IV Abscesses situated in the Cranium require an early opening. Tumours in the Cranium may produce such tension as to produce symptoms of Compressed brain

V Collections of matter situated in different parts where they give extreme pain, as the collections under the tendons in Paronychia ought early to be discharged as the discharge affords immediate relief. I knew a Gent.n affected with a Periodical Headache wh. was occasioned by a tumour on the calf of his leg, immediately relieved by opening the tumour & discharging the pus. I have known all the symptoms of Nervous fever supervene the formation of a small ab-

scess under the external oblique muscle. Instant relief was obtained by opening it &c

VI Abscesses situated on the face shd be opened early to prevent deformity. for, the natural opening is made by the destruction of a part of the substance of the tumour, the irregularity thus left will be much greater than that caused by simple incision or puncture

VII Such collections of matter as impede respiration demand an early open.ng The tonsils are sometimes so much enlarged for suppuration as to threaten suffocation - they shd always be opened under such circumstances - When suppuration has completely taken place, generally the highest point of elevation will be the place of evacuation, when it is effected by nature, it is by an absorption of the parts beneath the skin. But it is sometimes made by the skin and parts beneath losing their life & sloughing away - this stepping aside to give Nature

the Path supposes her to be unerring in her course, but when fm the reasons we have mentioned it is incumbent on us to dispute the road some precautions are necessary — 1st Do not open till the fluctuation be perceptible, & then let the opening be on the point of fluctuation

2d Be not precipitate when nature is slow, in open.g the part under fluctuation, or in using med: to promote its evacuation —

These med: nts are supposed to accellerate the evacuation of pus, as saisons saccharine substances &c so far fm being useful, by stimulating are often prejudicial — perhaps if any thing of this kind be beneficial, it is the application of a bread & milk poultice, or any other emolient warm to the abscess. They act by keeping the part warm & soft & well accommodating themselves to the swelling. —

Having determined on opening

the abscess we must next decide upon the manner this is to be done – There are 3 ways of performing it – 1 By incision

2° By Caustic – & 3° By Seton –

The former of these methods is the most eligible, afford^s a free outlet to the matter. – It ought always be preferred, except where the timidity of the Patient compel us to use the caustic – In this case the Lapis Infernalis is better than the common caustic

It ought be drawn across the tumour for 2 or 3 minutes. – This is to be repeated 2 or 3 times a day until the opening is made the parts will soon slough & give vent to the pus. – After the matter is evacuated, the abscess ought be treated as a common sore

Of Pus. – Pus when taken from a clean healthy ulcer appears to be a light straw coloured fluid, of the consistence of cream, transparent, & having a number

of whitish coloured globules swimming in it. When cold it gives out no smell, but when warm emits an odour familiar to Surgeons. It is of a mawkish sweet taste & somewhat acrid.

Its specific gravity exceeds that of water, it does not readily unite with cold, but is suspended in warm water. Pure pus is no way corrosive to the tender granulations of sores but is sometimes so to the surrounding skin just like tears wch dont injure the eye but irritate the cheek. Pus does not coagulate by heat but evaporates to dryness; & is little disposed to putrifaction. A solution of Sal: ammon: coagulates. On Chemical analysis it yeilds the same products as blood & Animal jelly.

Pus is distinguished from other fluids of the body by having globules of a particular whitish colour suspended in it, by being coagulable only by Sal ammon: Winter

with diluted sulphuric acid, it is precipitated on the addition of water a circumstance wh does not take place with other fluids &c Mr Hunter has observed that pus is the secretion of the vessels of a part, taking on the action of a gland, & the globules are not formed until it is thrown out of the vessels i e. they seem to form by a kind of Coagulation, for when the pus is first secreted they do not exist, & they form as well off the secreting surface as when suffered to remain on &c

The periods of the formation of pus are various it is generally formed in 20 hours. a bougie irritating the urethra has caused its formation in 5 - Home has observed it in 20 minutes after the application of a blister. It is formed soonest on secreting surfaces the contact of an ulcer is not ne-

cessary for its formation —

Ulcerative inflam.n —

In this state, the whole, or a part of the external covering is lost or destroyed by absorption, & a sore is left — Sometimes it takes place in an Abscess, from the pressure of the pus on the sides —

Ulcerative inflam.n mostly takes place after the Suppurative, but it sometimes precedes it, as in cases where the death of a part is produced by mechanical impulse, or acid applications, as caustic &c. — In the glans penis, as chancre, this is also the case. Pressure has also produced this stage without suppuration —

Ulcerative inflam.n progresses more rapidly towards the external surface than in any other direction — Its extension over a large surface is owing to pressure —

x distinguished by

The absorption of parts is always attended with some degree of inflamn. probably the adhesive - the pain accompanying it is attended with soreness - in slow ulcers however as Scrophula &c there is very little or no pain, but when the progress is rapid, the pain is generally very great. When the dead parts are seperated no uneasiness attends the operation -

Besides these varieties of Phlegmonous there are other kinds of inflamn.

Erysipelatous Inflamn.

This is often preceded by rigors & shivering, & frequently attended with fever or succeeded by it - It is seated in the Cutis vera, is sometimes of a light scarlet, & at others of a dark red colour - this colour disappears on pressure but returns on its removal - at times there is a yellowish tinge

It commences on a particular spot in blotches from whence it soon spreads, & often when healing in one spot breaks out just beyond it. — I have seen it commence on the arm thence spread all over the body of a child — The pain is burning but not very acute — it is often attended with intolerable itching particularly when on the Buttocks & face. The tumefaction is less than in adhesive inflam^n & differs from the latter in the production of serum instead of lymph — It differs also in having a determinate edge ceasing abruptly, the skin feels thickened & transparent vesicles are formed by an extravasation of serum under the cuticle — Sometimes the inflam^n is so great as to extend to the cellular membrane where pus is sometimes formed, the pus travels from cell to cell. These collections ought be immediately opened as all the parts of the cellular membrane with w^h it comes in contact are ready to

become gangrenous because the cellular membrane is unable to assist in the union, & slough off resembling wet tow in appearance — the matter discharged has a horrid smell — the gangrene most frequently happens about the nates & face — it very commonly takes place on the Buttocks. The sensation it imparts to the fingers by pressure is very peculiar, resembling a quagmire! —

Violent Erysipelatous inflam.n in the face, generally comes on suddenly with ardent heat, shivering, sense of tingling in the ear, & sickness at stomach — the colour is of a bright red scarlet, or yellow & sometimes of a dark copper colour — on pressure removes — there is considerable itching, & swelling sometimes so great as to close the eyelids, but without hardness or tension — small transparent pimples form & the fluid contained in them excoriates the neighbouring parts.

When it terminates most favourably, the

pustules dry & desquamate in 10 or 12 days scaling off like bran

The Remote Causes are the same as of Phlegmonous inflam^n but sometimes it comes on without any evident cause

The Cure is also the same – the evacuating & Antiphlogistic plan generally succeed if employed before suppurat^n has taken place

Bark has been commonly recommended but evacuating remedies are preferable – Poultices & unctuous applications generally used are certainly prejudicial

Cold applications to the part, cold flour, starch &c sprinkled on are useful. But the best local remedy we know of is Blisters over the inflamed part, these I have used with the happiest effects. When it extended over the face I applied the Blister first to one side then to the other

Case of a Gent^n with Erysipelatous inflam^n f^m the upper part of the thigh

to the ankle, the 3d day the parts appeared livid – I ordered 2 large blisters one extending fm the ankle to the knee, & the other fm the knee up to the thigh wh put an effectual stop to the progress of the inflamn but what in this case was very remarkable different tumours formed in the course of the limb wh were opened & healed readily by the ordinary means – this inflamn generally terminates in about 5 days

When suppuration takes place, the skin sh d be immediately opened as this prevents the pus fm travelling thro' the cells of the Tela Cellulosa & producing much inconvenience

Edematous Inflam^n

This is situated apparently in the skin only, but it most probably extends much deeper Probably the nature of this & of the adhesive inflam^n is the same originally, & that the Edematous is produced by the inflam^n attacking parts predisposed to Dropsy, & causes a secretion of Serum instead of lymph.

This attended with smart burning pains sometimes cold chills, cold extremities & sometimes violent inflam^n. I knew a case of a woman in whom it terminated fatally producing locked jaw.

The Cure is to be attempted by V.S. Purging, stimulating applications as brandy. Bread & milk poultices moistened with brandy is a very proper application. Scarifications are apt to produce Gangrene the parts here seem to be disposed to take on inflam^n & speedily produces gangrene

(The parts here seems to be disposed to take on an inflam^n) it coming on in red spreading blotches. I had a Patient in Odema aged 36 — I punctured the limb at the knee; many purple spots appeared the parts sloughed & left the knee bare, & in all probability the Patient w^d have died if I had not amputated

Mortification —

By mortification we understand the complete death of the part — Gangrene is the incipient stage of Mortification

Mortification is of 2 kinds

I Not preceded by inflam^n

II Preceded by inflam^n

The first is occasioned by a contusion or laceration of the vessels w^h renders them incapable of perform^g their natural functions, ligatures on the bloodvessels &c &c

The second kind is produced by obstructions in the vessels as instanced in heat & cold &c

1 Mortificat^n not preceded by inflammat^n

In these cases mortificat^n arises from a want of fresh blood. – In contusion the supply of blood is prevented by the irritability of the arteries being destroyed – they have not power to push on blood. does not this furnish an argument for the irritability of the arteries, since if nothing but the force of the heart were necessary the flowing ought not to cease

Mortification is much influenced by the state of the system, viz in a debilitated state, dropsy & old age &c – The colour of the parts about to mortify are first livid then purple & finally black deprived of heat and sensibility. – The parts emit a moist noi=

some swell, & the cuticle is raised by vesicles containing bloody serum - the dark & black colour is owing to the effusion of a greater quantity of blood than usual into the vessels, & these being too weak to expel the blood by contracting upon it the blood stagnates & gives the black colour. That it is owing to this is proved by washing the part in water, for the dark colour ~~colour~~ soon leaves it as the blood is seperated. - A crepitus is sometimes felt on pressing the gangrened part, this is owing to the disengagement of air by putrifaction. simple pressure on the part by preventing the transmission of blood will cause a Mortification

When mortification is produced by cold a pale colour is first perceived, it then changes to a purple with tumefaction & pain of the part, lastly black. - Under these circumstances heat suddenly applied wd be fatal -

Treatment. – The proper application when fm contusion is light poultices of bread & milk moderately warm until a seperation of the sound fm the unsound parts take place. – A seperation generally takes place in 7 days. – The fermenting poultice may also be applied. –

If great inflamn exists the Antiphlogistic plan must be followed – Opium may be given to relieve pain – Blisters & Scarifications. – But if the patient is weak & debilitated, Bark & Opium in large quantities must be given

If the Patient has been accustomed to the use of Wine he shd be indulged in it –

Elixir vitriol may also be given

Mortification proceeding fm Cold requires snow in the first instance to be rubb'd on, Cold Spring water, gradually increasing the temperature until the natural warmth returns –

IIdly Mortificatn preceded by Inflamn

This is of two kinds

1 When the inflamn is supposed to be so great the vessels cannot support the action or that the excitability is exhausted — Persons who are previously exhausted by other diseases are most liable to mortification — Urine extravasated into the cellular membrane has produced it — And in the case of the woman who had a Gymnapism to her abdomen wh excited such a violent degree of inflamn as to produce mortification — Blisters also — The case Fm Boerhaave of Vol. Lint being applied to a palsied limb &c

2d There exists a Species of Mortificatn arising fm some peculiarity in the nature of the Inflamn independant of the cause or violence. — Old people are frequently at=

tacked by a species of Mortificat.n begin.g in the toes, wh. commences with pain & slight inflam.n or sensation of heat in the part, the skin becomes of a lead colour, vesication sometimes takes place but not always — It comes on sometimes fr.m the slightest injury — I have known it brot on fr.m the scratch of a penknife in cutting corns.

Often in patients thus affected the arteries of the part have been found ossified

Mr Pott advises Opium as the proper remedy in preference to Bark — Here I coincide with him & object to all stimulating applications — Scarifications are also useless. On the contrary we shd not by any means attempt to cut any of the dead parts fr.m the living for it injures the small vessels & granulations above, & is frequently the cause of extend.g the Mortification

A case of this kind occurred in an old woman in the Alms house, in wh. Dr Dor-

sey applied blisters wh completely stopped the progress together with Opium internally.

Amputation shd never be attempted while the mortification is progressing: If it be done mortification will progress on the stump & death will be the consequence

Case of a Patient under Dr P's care who importuned him to perform the operation & no intreaties wd dissuade him from it. It was performed, & for some days the limb promised well but on the 5th day mortification came on & he died

The Symptoms of Mortification are a burning sensation, the colour changes from a livid to a dark red, & finally black — The Cuticle is raised by livid Vesicles & the sensibility of the part is finally destroyed, & a noisome peculiar Odour is emitted —

The colour wh is of a purple hue may be made to disappear on pressure leaving a

white mark where the impression was made — This is an indication of wh the Surgeon shd avail himself, for this circumstance does not take place if the part be completely dead, as the blood is then Coagulated & cannot be squeezed out, or if it be pressed out it cannot return — hence we have a good Prognosis, for the life of the part is in proportion to the quickness with wh the colour returns upon the white. — The Coagulum extends even into the vessels of the surround^g healthy parts, a wise provision wh prevents hemorrhage upon the seperation of the dead parts — Sometimes however from weakness, bad diet &c the Coagulum does not extend to the surround^g vessels, & hence bad consequences ensue —

The Remedies for Mortificat^n are General & local. — If inflam^g action runs high, the common remedies for moderating it must be employed viz Purging low

diet & moderate inflam.ⁿ is however necessary for the restoration of the parts. —

If no inflam.ᵗ action exists & the patient is much reduced & weak an opposite mode of treatm.ᵗ is to be adopted — the System in this case is to be supported by nourishing diet, & opium shd be given to relieve the pain. Perav. Bark I have never seen beneficial in arresting this disease — tis a good strengthening Med: & shd be employed only as such. given in as large doses as the Stomach will bear. — Wine & Spirits are useful particularly if the Patient has been accustomed to them

Local Remedies. — The exciting causes such as acid fluids &c are to be removed. — Before the death of the parts, the best application is a common bread & milk poultice moderately warm — Scarifications & incisions are generally improper, so are Stimulating Applications. these last how-

ever are sometimes useful in stimulating the part into a more healthy action — a carrot poultice, poultices impregnated with vinegar, or diluted Muriatic acid, or nitric acid to correct the fetor of the matter. — The fermenting Poultice may be used after a healthy action has commenced. It is made by mixing equal parts of yeast, honey, flour & charcoal finely powdered, & after it begins to ferment it is then applied in that state.

The application of Blisters is an invaluable local remedy in arresting the progress of Mortification — their beneficial effects have been exemplified in many instances. They shd be applied to the diseased parts (not yet) deprived of life.

In every species of Mortification I believe a blister is the best application to arrest the progress of gangrene, except in those cases of extreme debility in wh the slightest ap-

plication will produce it. As in the case of Boerhaave in wh Vol: liniment produced it; & even in some instances the clothes being on the parts have produced it. Here death of the part will inevitably take place. And also where the circulation is stopt as after aneurism &c. Here a bread & milk poultice is proper to keep the parts soft & excite the absorbents to promote sloughing

Blisters act by altering the nature of the inflamn.

Carbuncles

There is a species of mortification arising fm some peculiarity in the nature of the inflamn independent of the cause or violence, as Carbuncle. We infer that Carbuncle is of a specific action because the progress is stopt by a blister wh can only act by altering the peculiarity, for were

it otherwise it wd rather tend to increase the inflamn — & again we believe it for a case we have heard of wh after every remedy had been tried in vain was cured by several radial incisions & then a circular one round the gangrene, here the incision produced another kind of inflamn.

Carbuncle is a circumscribed, firm, broad flat, inflamed surface, pale at the edges. It begins by a pimple of a dusky red colour — the pain is very severe & the burning similar to a fire brand — It never produces good pus — the parts are destroyed by holes to let out the matter, & this causes a sloughing. It is seated in the cellular membrane of the back of face in wh parts it most frequently occurs, tho' instances are not wanting of its attacking the head extremities &c. They are more frequent & more dangerous in old than young people, & the greater the number the more they are to be feared

They shd be treated as Mortification from excess of inflamn — We have said they have been cured by Blisters, as well as by radial & Circular incisions — Blisters are as successful here as in common inflamn — they completely relieve pain, & act by altering the existing mode of action. If after the incision has been made it continues to grow worse, their superior efficacy is evident — whether if early applied they wd prevent the formation of Carbuncle, I have not had an opportunity of Ascertaining —

Burns & Scalds.

Heat when applied to the body produces different effects according to its intensity & time of continuance. Its first effect is that of inflaming the surface of the

tive skin & the seperation of the Cuticle

2d Inflam^n & vesication of the Cutis

3° Destruction of the life of the part & the production of an Eschar. — These effects vary accord^g to the Medium thro' w^h heat is applied. —

I Accord^g to the degree of heat, burning Coals & melted Metals, & streams of vapour destroy the life of the part

II Situation, more dangerous in the joints than in other parts, & more dangerous in the head than in the extremities

III Old people & children — There is more danger f^m mortification in these —

IV Its extent & depth. Burns of but small extent & considerable depth are less dangerous than those of large extent & superficial

When burns destroy the life of a part, little or no pain is felt till 2 or 3 days after when inflam^n for seperating the Eschar is excited. — In extensive burns the pulse is weak & almost

imperceptible, the extremities cold, patient insensible, Debility Fever, Delirium, Mortification, extensive suppuration & ulceration, with Hectic & Tetanus succeeds —

The Treatment is General & Local

The Constitutional remedies must be varied accord^g to the state of the System as indicated by the pulse. Some recommend the Antiphlogistic plan — V.S. Purging &c in every instance even before any inflam^y symptoms have appeared — this however may do harm.

When inflam^n commences evacuations are highly proper, & not before. In some instances the System is so debilitated that inflam^n does not take place — here pressure, the invigorating plan, cordial diet, wine, Bark, Bitters &c shd be used with Opium to relieve the pain, till inflam^n sufficient to separate the Eschar is excited — If inflam^n runs too high it must be checked by V.S. &c

The Local Remedies have been vari=

ous, linen dipt in vinegar, Spts Wine, Cold Water &c have all been found useful. When the burn is small holding it to the fire has been beneficial. - When the Cuticle is detached, linseed oil & lime water is useful - Acts as a palliative only, as do also scraped potatoes & salt, Cold water, Ice, lead water Ung: Saturn: &c

Of late very stimulating substances have been applied with excellent effects as Spirit Wine, Spt Terebinth - Vol: alk &c - One of the best applications is Kentish's Ointmt - composed of Ung: Basilicon softened with Spt Turpentine - Care must be taken in the application that it be not suffered to touch any of the sound parts as it will speedily inflame them. - When applied to the injured part it relieves pain. This rule applies with equal force in all cases where stimulating applications are employed -

Nature of Burns. - The inflamn effi-

ted by fire is of a peculiar nature & differ-
ent fm the common inflam^n This infer
1 From the pain being different viz of
a burning nature
2^d The ulcer succeeding is Fungous &
difficult of cure
3^d the Cicatrices having so great a dis-
position to contract, thus very often indu-
cing deformity
4 Its cured by remedies wh^h wd aggra-
vate common inflam^n Great care is re-
quisite to prevent the formation of adheri-
ons in pendulous parts - Case where thro'
inattention after a burn the Penis adhe-
red to the Scrotum & the Scrotum to the
thigh. - When the fingers are burnt dres-
sings must be kept between them, other-
wise they will unite - Splints sh^d be ap-
plied to keep the parts at rest & in a pro-
per situation -
Contraction of the limbs after burns

may often be prevented by the application of Splints. If the burn be on the back of the hand the Splint may be applied to the Palm —

We come now to Abscess of particular parts —

Mammary Abscess —

We rarely see this abscess in its Form[d] state as it then generally comes under the care of Nurses, & every old woman has some Specific for it, till it is too late to prevent suppuration. — It seldom occupies the whole breast, often not more than 3 or 4 Cells — Sometimes more than one tumefaction exists The secretion of Milk is commonly diminished & is Stopt altogether if the whole breast is affected —

This abscess is liable to occur at any time while the woman gives suck, but occurs

most commonly in the first 3 months after delivery. The pain is at times excessively great so much so that some women have declared it to be more severe than the pain of parturition - Suppuration is most commonly produced

Its Causes are sometimes an extravasation of Coagulable lymph wh hardening has been mistaken for Schirrus

Its remote Causes are mechanical injury, Cold, too much distention fm milk & every thing capable of exciting inflamn & suppuration in other parts of the body. - It is commonly preceded by a chilly fit wh fit is afterwards followed by fever

If we are called early in the form. stage the affection is very manageable & the cure is easy - 10 or 15 ℥ of blood & the Antiphlogistic treatmt carried on, & the evacuation continued - Merc. purges shd be given every 2 or 3 days - Anointing the breast with

warm oil - & applying bread & milk poultices wetted with lead water will be sufficient - Leeches applied to the part &c

The breast shd be supported by a suspensory bandage passed round the neck

When these evacuations have been premised, if they do not relieve, a blister over the part has been found in several instances to be a powerful discutient. In the case of Oedema before mentioned it was cured by a blister - this was done by blistering one half at a time. When the pain has been so great as to deprive the Patient of rest for several nights, as soon as the blister began to draw the pain was relieved & sleep obtained —

Sal: ammon: & vinegar are of no use, & the employm^t of all rubifacients is of a doubtful nature —

When suppuration has taken place & the matter does not readily find its way

out, it is proper to make an open^{g} by incision where the abscess points, & then apply a soft bread & milk poultice. Sometimes it is advisable to make a puncture into the abscess & to introduce a bougie to keep it open —

Paronychia or Whitlow

This is a disease w^{h} by neglect often becomes very dangerous. It sometimes occasions the loss of a finger, hand, arm, & even of life. It is generally seated in the end of one of the fingers, & is more or less violent accord^{g} to its situation. It usually proceeds to suppuration —

It has been divided into 3 kinds

The 1st species is when it is seated in the true skin only, here the end of the finger is inflamed, & quickly runs on ^{t}o suppuration. This seldom requires any thing

more than to open the abscess

The 2d Species is when it is situated on the adipose Membrane & Muscles. Here there is some degree of mortificat^n & the matter most frequently effused under the nail & between the Peritoneum & Muscles.

The 3° Species is when it affects the Theca or Tendon — the Periosteum or Bone itself — this is by far the most painful & severe, tho' when in the Periosteum there is not much Swelling. — Sometimes the Swelling extends a considerable distance up the arm, & the matter of suppurat^n sometimes travels under the tendons & annular ligament, & makes its appearance above the wrist. The tendon too sometimes sloughs away — At times a caries of the bone takes place, & mortificat^n ensues.

The Remote Causes are Punctures & The bite of a Squirrel has produced it, the rapid motion of a Rope thro' the hands of a

Sailor & suddenly putting the hand into warm water when it is very cold.

Treatment. — In the 1st Species we must open the Cuticle: & if it shd not shew a disposition to heal the whole cuticle shd be removed — Ung: Citrin: dry lint, or lead poultice shd be applied.

In the 2d Kind when the matter is above the Periosteum, an early opng is to be made down to the bone & the hemorrhage wh follows may be suffered to continue until it stops voluntarily, as it is generally of service. The pus is then to be evacuated & the wound treated as a common sore.

In the 3d variety. if the matter be beneath the Periosteum & the bone carious, the tendon sometimes sloughs away. The pus shd be evacuated & the bone if it be detached is to be extracted; but if otherwise it must not be forcibly dragged

away. If the matter point along the course of the tendon, a longitudinal incision shd be made before the evil that might otherwise result comes on

Fungous flesh often proceed fm the incision being too small. it is destroyed by enlarging it & using escharotics. Sometimes the fungous spreads over the nail, & the nail continues to irritate the sore, in this case the edge of the nail shd be pared away & the fungous removed by the common means.

Psoas Abscess.

This is situated in the cellular membrane surrounds the Psoas Muscles, & the pus is commonly contained in a Cyst.

The Remote Causes are bruises strains of the limbs, Cold &c the same as of Corn

mor inflam.

It is mostly accompanied by great pain in the loins &c, but sometimes it proceeds to suppuration without being felt, or at least with but a slight sensation of the part

The tumour wh is situated in the upper part of the thigh is increased by pressure on the abdomen, & in a great measure disappears when the patient lies down - Rotation of the thigh gives great pain - In this disease the Patient cannot stand upright the body is usually bent to give relaxation to the muscles. - The tumour increases till at last the matter is discharged outwardly, & this is done at different places - I have seen the opening by the Anus, & in the loins. Sometimes it makes its way out at some distance down the thigh - Often the integuments are not painful discoloured or inflamed, but the swelling takes place in the groin for the matter travelling to find an outlet - This swelling is not perceptible when

the patient is erect, & a fluctuation may be felt on the part — If the patient lay on his back with one hand placed on his abdomen, & the other on the place of swelling in the groin the matter may be made to move alternately from one part to the other — the suppuration proceeds slowly & the quantity of matter collected is often very great — I have seen two quarts evacuated from an abscess of this kind

The abscess never opens into the Cavity of the abdomen thro' the Peritoneum, but sometimes they corrode the Vessels & cause a fatal hemorrhage.

Curved Spine is apt to be the consequence of this disease, & it is commonly connected with a carious state of the Vertebræ. The curvature arises from the body being destroyed by the Caries, the vertebræ losing their support

Another means to know that the bone is affected is the suppuration of small pieces of bone

As it appears at the upper & anterior part of the thigh it has been mistaken for Bubo & Hernia; but the infallible criterion is the fluctuation. — Also for Fistula in Ano, but the distinguishing characters will be given when we come to treat of these.

Treatment. Here the great object is to prevent suppuration. for this purpose if called early, we shd prescribe rest, low diet, bled. from the arm & back, Purges every day or two, Blisters over the part, & an issue on the side of the Spine. If the patient have a strain or bruise after wt he feels a sense of pain or heaviness in the small of the back, these remedies shd be prescribed.

If suppuratn has taken place the matter must be evacuated — here a question arises whether we shall open it immediately or not — Some Surgeons think that if the inflamn be permitted to go on — that the abscess may open into the peritoneal cavity. The fear

of this has influenced them to open immediately upon the discovery of matter or its pointing outwards. Mr Hunter was the first to shew that the external communication of abscesses was apt to irritate them & that air admitted to such cavities causes violent inflamn. this we see in the abscesses wch have been so opened. The consequences then of opening one of these abscesses is the evils wch the constitution suffers, the parts become very red & painful to the touch - fever &c always supervene & such extensive inflamn as to produce Hectic &c &c. Those means wd be the proper ones wch wd evacuate the matter without danger of inflamn.

Mr Abernethy profiting no doubt from Mr Hunter advised the followg method - By making a puncture first thro' the skin & integuments with a lancet in the direction of the thigh - then to push it horizontally thro' the cellular membrane, & then into the Cyst

itself thus making a valvular incision & preventing the accession of air, & by 2 or 3 evacuations slowly to discharge the matter. The lancet is to be passed between the skin & fascia of the thigh. Mr Abernethy's plan is that of letting off the distention of the matter & suffering the parieties of the cyst to adhere, & tho' matter be formed again yet it is diminished every time & is at last completely healed. We have said 2 or 3 evacuations, but this depends on the disposition of the cavity to unite. This method I have used with success. I have not succeeded indeed when the disease was attended with Caries, but I have used this mode in abscesses extend.g fr. the hip to the knee with advantage.

Sometimes the cavity will not unite by the use of adhesive plaister, then the cavity most commonly inflames & fever is produced after wh. it terminates fatally. Sometimes a

curd-like matter interferes with the flow of pus, here probes & Canula's have been used; but these are an evil, they may wound a vessel, cause bleed^g - this blood stagnates & becomes putrid, & gives rise to inflam^n - 'tis better to remove it by forceps, or even to enlarge the opening. When all the pus is evacuated ad: plaister sh^d be used.

Abscess of the Hip Joint

This abscess may occur at any time of life, but most frequently at an early age fr^m the 3^d to the 14th year. The symptoms of the beginning of this disease are both obscure & unintelligible. There is first a weakness of the joint felt in walking. A reluctance to step is one of the first symptoms, & to bear the weight of the body on the diseased side, thus producing the appearance of an awkward bad ha-

bit of walking. Pain is sometimes an attendant but not always, & often not at the seat of the disease but at the knee — this often deludes the Practitioner, & applications are made to the knee as the seat of the complaint. — The pain is not constant but comes on at intervals & lasts perhaps 4 or 5 minutes — the child is often attacked suddenly while at his meals, & manifests his distress by violent screams — these pains are worse at night — the diseased limb is smaller at the commencement of the complaint & appears to be longer. this is owing to the Patient bearing the weight of his body almost entirely on the sound limb thus causing the pelvis to assume an oblique position, the sound side being elevated, & the disease depressed or lower than natural. the Buttock is flattened behind losing its usual round form — & the Trochanter Major projects laterally farther than natural —

After a while the hip is swollen & swelling increases as the disease progresses & pressure on the great trochanter will now give great pain. — The spine sometimes becomes curved, & it has been mistaken for a disease of the spine. — From the pain & the patient feels by leaning on his diseased leg, he supports his body on the sound leg & appears to be the shortest — Place the patient in a horizontal posture on a table to discover if it be so.

It sometimes arises without any evident cause, but it often follows blows on the trochanter — Jumping has also produced it.

If not arrested the disease progresses, & the child becomes more lame, the motion of the limb is diminished, & any motion of the hip joint gives the greatest pain — On any attempt to walk the gait is irregular owing to the motion only of the spine & knee, the hip being almost immovable — After a time the leg becomes very much shortened for the head of the femur being

dislodged fm the acetabulum by a tumour formd in it — indeed the socket is quite filled up & this Spontaneous luxation generally takes place upwards & backwards. See Ford on the Hip joint — Dessault on Spontaneous luxation of the Femur. —

Sometimes the Cartilage of the head of the bone & the Socket is absorbed, or Seperated, inflam occurs, granulations shoot out fm the denuded bones, & anchylosis is formed — In other instances the parts are absorbed & taken away without the leg being shortened fm the formation of a new Acetabulum allowing a small degree of motion —

Most generally if not prevented by proper treatm in its commencemt, suppuration takes place wh is commonly connected with a carious state of the bones — The Patients case is now deplorable, the whole body soon becomes very much emaciated & the size of the affected limb is wonderfully diminished — the abscess

at last opens by 2 or 3 Fistulous openings thro' wh the matter is discharged - the fever is considerable, runs on to Hectic, & death ensues

Hectic fever almost always succeeds when the matter is discharged by incision

Tis unfortunate for the cure of this disease that we are seldom called to Patients till the disease has progressed very far, & it is only in its commencem^t that much advantage is derived from Med: - When called in its early stage in the first place take away some blood

2^d Purge with Jalap & Cream of Tartar every other day for a considerable time say 2 or 3 months - Children bear these purges better than any other; & even when they appear to be very weak - the doses wh^d be sufficient to produce 3 or 4 evacuations.

Rest Keep the patient perfectly still & quiet, free from every kind of motion, for this is of the greatest importance - A wooden case carved to fit the side of the body, thigh

& leg is to be fixed on by bandages wh. will effectually prevent all motion & when Anchylosis takes place it will favour the union.

The diet shd. consist of vegetables & milk — the warm Bath Dr Physick has discontinued the use of on acct. of the motion wh. it gives the Patient —

Leeches to the part are sometimes useful

An issue shd be made by Caustic behind the Trochanter Major. There shd be dressed with Savin Ointmt —

By the above means I have often succeeded in stopping the progress of the disease, & even after considerable tumefaction of the hip had taken place —

Wounds.

A wound is a breach made in the continuity of the soft parts by mechanical injury, communicating externally

They are divided into Incised & Contused

Incised wounds when made with a sharp clean cutting instrument

Contused when the solution of continuity is accompanied with considerable bruising — Under this head are included lacerated wounds, punctured, & gun shot wounds — And each of these may be a simple wound, or they may each be poisoned, i e in addition to the cut, bruise & there may be added a virus of some kind — thus the bite of a mad Animal is a contused wound contaminated by the poison of the morbid Saliva

Every wound is accompanied with a considerable effusion of blood, but the hemor-

hage is most considerable fm incised wounds Sometimes the hemorrhage is very little fm contused wounds. Cheselden relates the case of a Miller whose arm was entirely torn off without any hemorrhage succeeding

In incised wounds the hemorrhage is greatest because the vessels are not injured beyond their divided extremities. of course the blood continues to flow until fainting is induced, or clots are formed. But in contused wounds there are three causes operating to prevent it. —

1 the vessels are killed beyond their divided extremities — hence they do not propel the blood by their contraction, & thus become an obstruction to that in the sound part of the artery —

2d the extravasation of blood wh takes place in the cellular membrane by its tension compresses the arteries wh prevents the passage of blood thro them

3° The extremities of the vessels being killed the contact of dead matter stimulates to speedy coagulation, & a clot is quickly formed at the extremities of the arteries —

Incised Wounds. — In wounds the first thing to be done is to stop the hemorrhage, this may be effected by pressure with the fingers until other means can be resorted to. Wounds in the extremities may be stopt by the application of Petits Tourniquet — It is to be applied when there is but one bone as between the knee & hip on the thigh, & between the shoulder & elbow on the Humerus —

A compress must be first applied on the artery made by folding up the end of a roller, & the tail of the bandage brought round the limb to secure it. — The Tourniquet is then to be applied with the brass on the compress, & screwed on. It is not necessary to use a compress on the arm —

7 pulled

After the hemorrhage is stop'd, clear the wound fr. Coagulated blood. dirt &c with a sponge & warm water by wh the vessels will be brot into view — the divided ends of the artery are then to be brot out with a Tenaculum & both extremities secured by ligatures — A common knot will answer & it is immaterial whether the ligatures be flat or round the Anastomosing of the small arteries renders it necessary to secure both ends particularly in the radial & ulnar Arteries

If the Artery be diseased so that it will not bear to be drawn out by the Tenaculum we must secure a quantity of the soft substance surrounding the vessel by means of the needle taking care that in passing the needle round the vessel we do not wound it. for this end we must not let the edge but the concave part of the needle be towards the vessel —

Sometimes it is necessary to enlarge the wound to have access to the vessel this must

be done with great care — But if the exact point of the Artery cannot be discovered the needle must be used including the surrounding flesh. —

Sometimes the Tourniquet cannot be applied to the bleeding ~~to the bleed~~ part as on the trunk of the body, here pressure with the finger shd be used till the Artery can be drawn out & secured —

If the vessels are divided too high up in the extremities for tourniquets to do any good. the hemorrhage may be stopt by pressure on the Artery as it passes over the first rib on the superior extremities; & in the inferior on the groin. —

Sometimes the wounded Artery lies so deep & the incision so small that it cannot be seen, or taken hold of by the Tenaculum — here dilate the wound. — In operating for Calculus I once cut the Pudic Artery, but putting down my finger I felt the Artery by the flowing

of the blood, & passed a ligature round it

When wounds are so near the trunk of the body as to render dilatation of the wound dangerous, in such cases compression can be sometimes made on the trunk of the artery above the wound long enough for a clot to be formed thus stopping the Hemorrhage. — If this cannot be done the artery may be felt, & a needle is to be passed round it with its concave surface next to the artery so as to apply a ligature (as in the case of the Pudic artery before mentioned)

Sometimes even in the extremities it is exceedingly disagreeable & inconvenient to dilate the wound, as in case of the division of the Plantaris Externus artery in the sole of the foot; here bleed^g is stopt by compression above on the Anterior & Posterior Tibial arteries by bandages & plaisters &c — It seldom happens that the re-

medies wch have been mentioned will not prevent hemorrhage

There are certain circumstances under wch the ligature cannot be applied - as when the divided artery is in the Fauces & cannot be reached, the hemorrhage may be stopt by dry lint or sponge, astringent powders, Agaric, sprinkling on of flour, & lastly by the actual Cautery

Sometimes there is no obvious vessel frm wch the blood flows, but it oozes out frm the whole surface, here the best applications are lint agaric, dried sponge, Sac: Sat: blue vitriol & Spts Turpentine - this last is a very efficacious one -

Wounds of Arteries of small will heal of themselves by proper treatmt - Case of a man who was wounded in the Popliteal Artery, who was cured by bleedg - & - thus prevent the operation for Aneurism - Also a similar Case of a puncture in the arm. - When

called to a case of this kind I shd be backward in operating, for by enlarging the wound we give rise to inflamn & suppuration; besides it is painful to the Patient & often subjects him to a long confinemnt — Case of a man who had been wounded in the thigh, & whilst the cure was going on well an officious Surgeon stuffed in lint & caused an irritation wh prevented the union of the sides & a fatal hemorrhage ensued. — It has been common to make pressure on the wound, but this is very hurtful for it prevents the formation of vessels in the Coagulum of the wound — Pressure moreover made below the point of the wound by giving a greater distention above prevents the sides of the wound from uniting —

The Cure is to be attempted by low diet, bleedg — rest &c — The Patient shd be kept perfectly quiet with the affected limb elevated — the Tourniquet may be left on the limb, & all probing, pushing in of dressing &c shd be prohibited —

The Hemorrhage being now stopt, the lips of the wound are next to be approximated & retained in contact by strips of ad: plaister spread on linen or muslin rather than on leather, as the former are not so apt to be corroded by the foul matter from the sore — leave the space of about 1/4 of an inch between the strips for the discharge of pus blood &c I commonly leave this part of the wound unapproximated, as without this there wd be danger of an abscess being formed — Over this is to be spread some Ointmt as Basilicon — The ad: plaister is to be assisted by compresses & bandages — & it shd not be taken off under 48 or 72 hours at wh time the ad: plaister inflamn most commonly takes place

If the inflamn shd run too high the Antiphlogistic treatmt is to be pursued. But if on the contrary weakness, the Patient is to be supported by Animal food & some fermented liquors — & if inflamn be absent

it must be excited by stimulating applications.

Before we bring the sides together we shd wait for some time, that the small vessels may stop bleeding for the blood wd accumulate & become putrid wh wd irritate & cause suppuration. But if there be any ligatures the wound is not to be entirely closed, a place shd be left for them to come out, & if possible all the ligatures shd be brot out at one place. — If any other extraneous matter remains in the wound it shd not be entirely closed for an abscess wd be formed & we shd have to distress the patient by opening it again —

I had a case of tumour in the breast in wh having no occasion for ligatures the whole united by the first intention. — When the parts are brot together, lint spread with Cerate is to be laid on — Over this a Compress of Tow, & the whole secured by a bandage.

All incised wounds may be thus treated

except those from glass, which as they may contain particles of that substance, & as these might cause irritation, this is to be treated as a contused wound —

Even in transverse wounds in muscular parts, if care be taken to relax them, the adhesive plaister is often sufficient & they are far preferable to sutures — sutures if possible should be dispensed with — for in the first place they give pain — 2d They make a punctured wound — 3d Wherever they pass thro' they cause irritation, & suppuration always succeeds, for the ligatures remain in fact like a seton — Yet there are some cases where they are absolutely necessary, as where projecting ends are cut off, as in the Nose, Peritoneum, Scalp, Ear, tip of the tongue, Scrotum &c — The interrupted suture is always to be preferred. — Ligatures are also to be used when the integuments are torn off from the parts beneath — Care should be taken not to draw the parts too tight for

x The reason why we do not attempt an union is that the parts must slough

they may swell & slough —

Contused Wounds. — These are made by a dull rough instrument, in wh. there is considerable bruising besides a solution of continuity. — Sometimes the parts are either killed, or there is much mechanical disorganization. The hemorrhage fr. these wounds is inconsiderable — Case of the Miller before mentioned — And also of a boy whose arm was torn off in a cider mill, in both wh. cases the hemorrhage was trifling, the reasons of wh. we before stated. — As the pain & irritation may be excessive, an opiate may be given joined with an Emetic — Here it is not proper to approximate the divided surfaces — A bread & milk poultice must be applied until the parts slough. — After suppuration takes place granulations will form, & the sides of the wound being approximated as in incised wounds, the cure is effected.

If any arteries are wounded they must be secured, & if inflam^n ensue high, V.S. Purges & must be prescribed. A Blister is often beneficial applied over, or round the wound, if mortification threaten. But if the contrary symptoms occur & mortification be apprehended, Bark, Opium &c shd be freely used — In the arm the Radial Artery shd be secured, in the leg the Inguinal &c.

Punctured Wounds.

Punctured wounds are such as with a small external opening have considerable depth — made by a sharp pointed instrument — the irritation is greater than in incised wounds — They are of the nature of lacerated wounds

The old Surgeons used indiscriminately to dilate these wounds, but this is not always proper — There are several circumstances wh render dilatation necessary

1 Extraneous matters in the wound. If

there are easy of access the wound may be enlarged. & this is best done by an incision with a Scalpel — Probes & Forceps do injury — When dilated with this view it ought be done very soon after the accident. otherwise it is best to wait until they are thrown out by suppuration.

2d When large Arteries are divided it is necessary in most cases to dilate in order to take up the bleed.g vessel

3d Whenever Constitutional Symptoms occur in consequence of these wounds they ought be dilated —

In warm weather it is necessary to deep with stimulating applications, or to dilate, in order to prevent the wound from healing too quickly wh. is apt to induce Tetanus Tetanus has succeeded the puncture of a Nail, & even a needle. In many cases wh. I have been called to I have found the application of a Blister to the wound threatening Tetanus,

to prevent it; and especially, as is sometimes the case, if it be accompanied with an Erysipelatous state of the parts around the wound.

If Inflam.n runs high, Medicamina, low diet, Cathartics, & if necessary bleeding

Sudorific Anodynes & Opium combined with Ipecac: is the best Anodyne.

Having considered wounds in general we next proceed to wounds of particular parts, & first of

Wounds of the Eyelids

Incised wounds of the Palpebræ, if there be no loss of substance, can be commonly cured by bringing the divided surfaces together, & retaining them by ad: plaister, even when the eyelid is cut entirely thro' — But if any portion be cut off, a suture is necessary. In uniting it we shd avoid piercing the Tunica Ad Nata, as the suture wd then induce in=

flam^n & very disagreeable Symptoms by being in Contact with the globe of the eye — Pass the needle thro' the skin & Cellular membrane only — If inflam^n takes place use leeches, cupping, Blisters &c as hereafter mentioned

Wounds of the Ball of the Eye

may arise from a variety of causes, & they almost always induce blindness — Case of a boy who run a penknife into his eye, & by rubbing it squeezed out all the Contents.

A young Lady had the Cornea wounded by the glass that flew off from the bursting of a bottle of Cider — the iris sometimes adheres — All extraneous bodies that pierce the eye as sand, iron &c should be removed if they can be come at. When the internal parts are injured vision is either impaired or destroyed & the pupil is altered in shape, & its situation changed —

The Treatment is to remove extraneous bodies, keep the Patient still & in a dark room

low diet. V.S. – leeches, cupping – Blisters to the temples &c shd be employed – the best Collyrium is an infusion of the pith of Jalapa pap in water or milk & water – By this treatmt opacity may be prevented

Wounds of the Cornea induce very violent inflamn – Case of a very violent inflamn of the eye induced by a knife being thrust into the Cornea, & into the Posterior Chamber, the Patient was bled 14 times, at last cupped, blistered &c, but nothing seemed to do any good, till Calomel was given in such doses as to induce a salivation, as soon as the mouth became touched the inflamn moderated

In operating on the eyes of Children a Speculum shd always be used to fix the eye.

If the Crystalline lens or its Capsule become Opaque, it is often the effect of being injured or pierced. A lady who came under my care had the misfortune to pierce the Cornea with a

a darning needle — the Crystalline lens or its Capsule became Opaque, & the very violent inflam^n w^h ensued could only be subdued by Mercury. — the Opacity also disappeared after Ptyalism. — If I were called to a similar case again, before I used Mercury I w^d apply a Circular blister over the eyelids — Patients generally say that flies get into the eye, & raise an objection; but if you attend to the Materials you use, mix the Cantharides with the Ointm^t in a thick consistence, & afterwards apply a white gauze over the eye there is no danger of it — If this failed I w^d then use Mercury —

The Face is subject to every species of wound in common with other parts, & they sh^d be treated accordingly. — But the great object is to prevent deformity — With this view in Incised Wounds the parts sh^d be brought into contact with great care & re=

tained by ad: plaister wh is commonly quite sufficient. — Sutures shd not be used as they will leave a Scar

Contused wounds of the face are to be treated as similar wounds in other parts of the body, applying poultices till suppuration & granulations appear, then carefully approximate the Surfaces so as to render the Cicatrix as small as possible

Wounds of the Lips if there be no loss of substance shd be drawn together by ad: plaister. But if a portion be cut off, the interrupted Suture becomes necessary —

Tongue —

When a portion of the tongue is cut off wh is sometimes the case in children, the interrupted suture becomes absolutely necessary. Before attempting to make the Suture, the childs mouth must be fixed open by a

piece of round wood between the teeth or by some similar contrivance. Sometimes it is necessary to draw the tongue out of the mouth with a hook till the suture is made - Feed with spoon meat till union is effected. In 8 or 10 days the sutures may be taken out

In Wounds of the External Ear the Suture is necessary.

Wounds of the Throat.

These commonly occur in an attempt to commit Suicide. - In most instances the Trachea is partly & sometimes quite cut thro'

When the Oesophagus is cut into the danger is very great. - It may be opened without the Carotid Arteries being divided It is also sometimes wounded without the larynx receiving any injury - Case of an old woman who thrust a penknife along side the larynx

Treatment. If the Trachea be only partly divided, ad: plaister will be sufficient.

The first object of the Surgeon is to stop the hemorrhage, wh often takes place to a dangerous degree both fm Arteries & veins. These shd all be secured by ligatures both arteries and veins, even the carotid artery itself may be taken up — After the Hemorrhage is stopt, bring the divided surfaces in contact & keep them so — In small injuries when the Trachea is only partly cut thro' the ad: plaister answers, but when it is completely divided the interrupted suture is to be used. Make the suture in the cellular membrane round the Trachea & not in the Trachea itself, for making it thro' the Trachea wd induce violent irritation, Cough &c. Do not draw the lips of the external wound close together that the blood may escape wh wd otherwise fall into the windpipe. When cough occurs allay it by Opiates & Demulcents —

But sutures are insufficient. Case recorded in the Med. Commentaries wt was twice stitched & torn out again, it also excited violent coughing & vomiting, & blood &c falls down the Trachea into the bronchia & cause suffocation. This case was ultimately cured by a proper position of the head bent forward & secured. — This the first object is to stop the hemorrhage & 2d to bend the head forward & secure it by bandages. When the Pharynx is wounded it is very difficult to heal for the motion produced by deglutition prevents an adhesion. To obviate this, a flexible tube shd be made to pass beyond the wound & the Patient supported by liquid aliments passed thro the tube & by nutritive Glysters. The tube shd be dressed by proper dressings &c

When the Oesophagus is wounded the interrupted suture must be used

Wounds penetrating the Thorax

Upon an injury of this kind the air is admitted into the lungs, & will go in & come out at each inspiration & expiration; the respiration is laborious, cough &c

In wounds of this kind some Surgeons are in the habit of probing to ascertain whether it has penetrated the lungs or not; & if the wound is large enough to even stick their finger in — this is a bad practice & shd never be followed. it causes irritation & suppuration wh may break into the Cavity of the Thorax. — If the wound has directly penetrated the lung then the air will pass in & out at the Aperture in respiration: if it be oblique, Emphysema will be the effect — If the lungs are wounded the Patient will cough up blood, & if any considerable artery is divided blood will most probably flow in & out of the wound & syncope

& cold extremities attend. If none of these effects are produced it is of no consequence whether it penetrates or not as to the treatment.

It sometimes happens that one of the Intercostal Arteries is divided. In this case if it cannot be taken up, the Surgeon shd put his finger on the bleedg vessel, & then passing a ligature round the rib, & placing lint on the bleeding vessel wh lint shd be secured by a thread or it might slip out & fall into the Cavity of the thorax, wh wd suppurate as long as the lint was lodged there. Thus tying the ligature firmly round the rib & lint stop the hemorrhage.

The Surgeon shd attempt union by the first intention, & simple incised or punctured wounds will often heal in this way by applyg ad: plaister. but this cannot be effected if the wound has been made by shot, in this case the danger is

greater, for the wound must suppurate — they occasion violent inflam^n, wh^ch must be reduced by low diet, plentiful bl^d. Purging & rest — In one case of a boy who was shot between the 7th & 8th ribs — I found it necessary to take ℥120 of blood in 12 days — he was purged, a poultice to the wound &c — After some time it terminated by a copious secretion & discharge of serum, wh^ch is one of the methods in wh^ch inflam^n terminates; thence had there been no outlet to the fluid, Hydrothorax must have been the consequence In the space of 30 days he was entirely well

Sutton directs us to expel the air f^m all the Cavities, the Pleura &c before closing the external wound; but this is founded on a false theory, that air will excite inflam^n in such cavities; but this inflam^n accord^g to Hunter is excited by the wound render^g the Cavity imperfect & not to the air. This opinion is correct — air is not an acid

fluid, & will not irritate internal parts to inflam^n — This I have proved by experiments on a Kitten & a Dog — If air acts at all in exciting inflam^n "tis by drying the moisture on those membranes whose moisture is perhaps necessary to health.

Wounds of the Abdomen.

When they are superficial & do not penetrate they require no peculiar treatm^t always healing readily by the first intention — but they require particular attention, least the puncture having penetrated the Fascia sh^d form abscesses. — If abscesses sh^d be formed, & the fluctuation be perceptible, they sh^d be opened — they never point, but travel in the tendinous sheaths of the muscles. To prevent this a blister over the affected part is the most effectual remedy.

When they penetrate the abdomen with-

out injuring the contained parts, they are to be closed with the interrupted suture. In making it have a ligature armed with 2 needles, one at each end wh are to be passed from within the Cavity of the Peritoneum outwards 3/4 of an inch from the wound. When the suture is made the Peritoneum shd be carefully drawn to meet, for without such an union, Hernia wd be apt to take place at the part. After having passed all the ligatures wh shd be half an inch apart, secure the wound by tying a knot in the ligatures by the side of the wound. Keep the Patient at rest, & on low diet & keep the bowels open.

When the Stomach, Intestines, or any of the hollow Viscera are wounded, the principal danger arises from the escape of their contents into the Cavity of the Peritoneum thus exciting inflamn. Wounds not fatal in themselves often produce death in this way

If the Stomach be the wounded Viscus some of the food last taken is commonly evacuated by the wound. blood is vomited up &c

If the Intestines are wounded blood passes by stool. — The follow^g are the common Symptoms both of wounds of the Stomach & Intestines — Severe Nausea, griping, Cold sweats, Singultus, tremors & death w^h commonly occurs on the 3^d day, but sometimes much sooner even in a few hours. — When the bowels are very much injured, the Patient lies insensible till he dies —

When the Stomach is much distended, a large wound in it by w^h its Contents are evacuated by the wound is less dangerous than smaller ones suffering only part of the contents to escape into the Cavity of the Peritoneum — Never despair of incised wounds of the Stomach they are not necessarily mortal

In most cases of Penetrating wounds of

the abdomen, a portion of the Intestine or Omentum protrudes thro' the wound, there is great pain & tension, & the part of the intestine wounded is generally not far off — this seat for & when found close it by the interrupted suture. — If the gut be cut completely, at least four ligatures are quite sufficient. It is the custom with some to leave the ends of the ligatures out of the wound, but the best way is, after the ligatures are all secured, to cut off the strings close to the knots, & return the intestine into the cavity of the abdomen as the ligatures will slough off & pass into the intestine & be carried away by the fæces — this is difficult to conceive, but the theory is as follows. — When the 2 ends of the intestine are placed together an effusion of lymph takes place all around forming a kind of band on the outside of the intestine — the part contained by this band then sloughs away

having the ligatures in it; & as the band is outside of it, it can pass off no other way than thro' the intestine

It has also been supposed that transverse wounds unite more readily than longitudinal, but Dr Smith has shewn that there is but little difference if the bowels be quite easy. It is certain that we cannot close longitudinal wounds without diminishing the cavity of the canal, & this may give rise to inconvenience – As transverse wounds therefore are easiest closed, & heal best, it is advisable in longitudinal wounds of considerable extent to convert them into transverse ones by cutting out the wounded portion entirely, then proceed as directed above – Recoveries have taken place after 3 or 4 inches of the intestinal tube have been cut out. –

After the wounded intestine is closed &

returned into its proper situation, close the external wound also, & prescribe very low diet

If the Omentum or Mesentery be wounded, & bleed profusely, take up the bleed^g vessel, bringing the ends of the ligatures out of the external wound taking care to bring the Omentum as near as possible to it; this is necessary for if the ligature when it sloughs off the pass into the Cavity of the Peritoneum inflam^n will be the consequence —

In some instances the intestine does not protrude, & yet the symptoms indicate that it is wounded — here a question occurs, shall we dilate the wound or not? In some cases it is absolutely necessary, for instance if the intestine be entirely divided & the lower portion protrude thro^h the wound — here the contents of the Stomach w^d be discharged into the Peritoneal Cavity & must terminate fatally unless the upper part be se-

cured. — Also when a portion of intestine protrudes thro' a small Aperture & being full of air cannot be reduced — the older surgeons here used to puncture the intestine to let out the air, but 'tis better to dilate the wound — When there is a large hemorrhage from the Omentum or other contained parts it may also be necessary to dilate — But it is not proper in all cases. A Negro of this City received a load of shot in the right flank of the Cista of the Ileum, the pain was very great, & in a few days he discharged blood & shot — He was bled, kept on low diet, drank milk & tea, took Opium as an Opiate to relieve the pain had his belly fomented & in a few weeks recovered although his intestines were pierced by the shot this was more dangerous as the contents often pass thro' the Shot holes

When we cannot find the wounded

intestine, stitch up the external wound, & follow the above directions — the ligatures shd pass thro' as small a portion of the Cavity as possible. In some instances altho' fr the Symptoms there is every reason to believe the intestine is wounded, yet if it does not protrude, & the wound is not seen I wd dilate a little; but I wd be unwilling to do more than to make a very small dilatation to search for it especially as such wounds have healed without ever being seen by the Surgeon. — When therefore wounds of the intestines cannot be got at with very little dilatation, stitch up the external wound, keep the Patient perfectly at rest, allow no food for 2 or 3 days & but little water thus avoiding distention. — If inflam^n occur bleed largely Glysters to open the bowels, Anodyne Glyster to procure sleep — Fomentations & Blisters

Any instrument penetrating the right Hypochondriac region will most probably wound the

Liver — This is known by a pain, sense

of heavy pressing or dragging. — If the wound be in the right lobe, the pain will be in the right shoulder; if in the left lobe the left shoulder. — If the wound be small or superficial, it may heal readily, but if large or deep the danger is considerable from hemorrhage, for if it shd even stop after a while the peritoneum will most probably inflame. —

Little can be done here by the Surgeon but keeping the Patient at rest on the left side, living on very low diet consisting of barley water chiefly, keeping the bowels open by laxative glysters. If inflamn occur v. of Poultices Fomentations & Blisters —

In Wounds of the Stomach the food last taken in will come out — Thus a traveller having drank a large quantity of Porter got into a quarrel with a Barkeeper who ran a Bayonet thro his breast entering his right Hypochondriac, & grazing his Liver penetrated the Anterior Surface of his Stomach — he felt

no pain at the wound but in a direction down fm his Epigastric to his Hypogastric region — he died of Peritoneal inflam^n & the Porter was found in his Abdomen —

Again a Gent^n in attempting to take a runaway Negro had his Abdomen laid open with a knife 3 inches & his Stomach 2 inches — the wound was kept open & dressed twice a day. An abscess formed in his right Groin w^h was opened & discharged Cabbage & other things w^h he had eaten for dinner just before he received the wound — he recovered — we should therefore inquire in such cases what was last eaten —

A Gent^n in taking a runaway Negro in Market St^t within a square of me — one of them pulled out a Pistol charged with Shot & shot him in the groin — Several days after he discharged the shot in his Faces shewing they had perforated his intestines — he recovered —

<u>Wounds of the Gall Bladder</u> thro' w^h the bile is poured out into the Cavity of the abdo-

men are I believe always fatal fm the acrimony of the Gall exciting inflam^n —

Wounds of the Pancreatic duct & Pancreas are also fatal. —

Kidney When this is wounded bloody urine is discharged. — If the wound be made in the posterior part so that the urine flows freely thro' the external wound the danger is not so great as it will heal by degrees; but if the anterior part of the kidney be wounded, or the Ureter occasioning the urine to be extravasated into the Cavity of the abdomen. it is almost universally fatal

Wounds in the Fundus of the Bladder are fatal fm the same cause viz the extravasat^n of Urine producing a high degree of Peritoneal inflam^n & death. — But when the neck only is wounded the Patient may recover

Wounds penetrating the Cavities of joints require immediate attention — In order to prevent inflam^n & suppuration they sh^d be united as soon as possible

Incised wounds of the joints if properly treated may easily be healed in the course of a week, but if proper care be not taken, inflam^n fever, & a stiff joint will ensue, & sometimes amputation must be resorted to — Always bring the sides of the wound in contact & retain them so by ad: plaister. — Sutures are seldom or never necessary — But if they cannot be dispensed with they sh^d never penetrate the capsular ligament, but only thro' the integument, for stitching in the joint will incitate to inflam^n & thus frustrate our design of uniting by the first intention. — This mode of union we sh^d always attempt — Even when some part of the articulating surfaces are destroyed it is sometimes proper to attempt union by the first intention. — To do this speedily a pro=

per position of the limb is of the greatest importance — the limb is to be placed in that position wh is best adapted for the approximation of the wound, & the relaxation of the muscles, & retain it by a Splint. In this manner the joint will heal in a few days, & its motion be preserved. but by neglecting to produce a speedy union, or by the application of lint & Spts Turpentine as some have done great irritation is produced, & it is always painful. — Dr P. mentions 2 cases, one treated by the first method who soon recovered, the other by the latter practice lost the use of his joint

In every case where the wound penetrates the Capsular ligamt a splint shd be applied on the limb so as to prevent all motion, & keep it uniformly & constantly in a proper position — It prevents the Convulsive twitches. Splints are applicable in all cases of inflamed joints whether wounded or not. It is impossible for wounds of the joints to heal by the

first intention, if motion of the joint be permitted. The least motion produces inflam^n & becomes the cause of the formation of large abscesses. — I repeat it, perfect rest is of the greatest importance

Lacerated or Contused wounds of joints. — When the cavity of a joint is laid open by laceration, or a contused wound, union by the first intention cannot in general be effected. — The best plan is to apply a poultice & place the limb in such a position as shall bring the sides of the wounds as near together as possible — Adh: plaisters or Sutures must not be used in the first stage, as the parts must slough — let the proper position of the limb be assisted by bandages, & keep the joint free from motion — keep the Patient on low diet. — Joints when wounded do not so readily run into violent inflam^n as some other parts probably from a copious flow of Synovia keeping it under — If inflam^n does oc-

cur, Bloodletting both general & local shd be employed — the Antiphlogistic Regimen & Blisters are also Beneficial — After the granulations are formed bring the sides of the wound together by ad: plaister — No sutures shd be used — the arm shd never be kept extended for after Anchylosis is formed & the joints becomes stiff this posture is exceedingly inconvenient

Joints of the Fingers when penetrated apply splints so as to keep the fingers extended & the joints free for motion — Such wounds of the joints of the fingers wh — by applying splints might have been healed in a very short time have grown worse & worse for many weeks when the application of splints have been neglected & upon applying splints were quite restored in a few days

In extensive lacerated wounds of large joints especially if the bones be shattered &

lerated the danger is very great as Delirium mortification, Tetanus &c often speedily supervene; & it is an exceedingly nice point to determine whether immediately to amputate or not. — If the Patient escapes mortification, Tetanus &c, he will at least have a painful tedious suppurating sore. Hectic will most probably accompany; & it often terminates in Caries, or complete Anchylosis rendering the limb useless. —

What the issue of such wounds will be it is impossible for the Surgeon to tell. He shd therefore state to the Patient all the risques fm Mortification, Tetanus &c in attempting to save the limb & the probable success of speedy amputation — He shd then let the Patient & his friends take the responsibility, & determine whether it is to be amputated or not — Such wounds are more dangerous in the heat of summer, in old people & in the Intemperate —

How are injuries here repaired

1 By of the Capsular ligament
2° By Anchylosis. — In extensively contused wounds of the joints the joint must anchylose, & the Cartilage is always removed by the absorbing vessels previous to the formation of a stiff joint; & as Cartilages never inflame, suppurate, granulate, or exfoliate, it is sometimes proper to scrape off the Cartilage from the articulating surfaces; thus relieving nature from the necessity of undergoing a tedious process in order to remove them. — This scraping off the Cartilages from the ends of the bones will answer every purpose designed to be accomplished by Mr Gooch, by sawing off the ends of the bones — In this state Granulations will shoot out & the affection will be brot to the state of a compound fracture, except the Capsular ligament wh surrounds the bone; but this if

necessary may be cut off. Guard against violent inflam^n by purging & the antiphlogistic regimen. Apply splints so as to keep the joint perfectly at rest. If inflam^n does occur bleed &c

Wounds of Nerves & Tendons

if made with a clean cutting instrument heal readily. If the nerves are divided the first symptom is said to be great pain, then numbness, want of sensibility. If tendons are completely divided, the motions performed by the muscles to w^h they are attached cannot be performed.

When nerves or tendons are only partly divided the symptoms that occur are said to be very violent, such as extensive inflam^n round the wound, fever, delirium, spasms & even death. These symptoms sometimes occur Qu. — We judge that the nerve is wounded

by the pain numbness &c occurring at the moment of the operation — If the violent symptoms do not occur till some time afterwards, it is concluded to arise fm inflamn of the inside of the vein. To remedy these evils complete division of the nerve has been advised; but I do not think it necessary — indeed when the above symptoms occur afterwd, they do not in my opinion arise fm the incomplete division of the nerve or tendon, but fm inflamn of the internal surface of the vein — for in operations there is always a wounding of many nerves but such consequences do not often follow when however the nerve is wounded, the part around inflames, convulsions come on &c

Wounds of Tendons are sometimes attended with violent effects fm the Tendon inflaming; but it is well known that the wound of a Tendon is not at all pain=

fal, the evil effects are then to be ascribed to inflam^n of the tendon or of the parts beneath. We have made these remarks to prevent dilatation in every case for tis a very terrible Operation & often quite useless. Many advise cutting down even to the bone itself to remedy the Evil, but this is only increasing it. It is sometimes attended with a fatal issue — If however the pain occurs immediately after b.s. we may conclude that this nerve is punctured, we may then open the wound & divide it completely, nor ever here th^d it be practised unless the parts below the nerve or tendon be much inflamed, the general inflam^y symptoms th^d run high, pain & delirium &c — Sometimes matter collects under the tendinous fascia & give great pain

Tho' the wound of a tendon does not perhaps give rise to the violent symptoms yet the puncture extending to the parts

beneath, inflames them, & the matter being bound down by the tendon, or its Fascia, is followed by the Consequences alluded to. Whilst the inflam^n is going on it may be relieved by a Blister — If not shd — Cut the Fascial to prevent the formation of pus. — If however suppuration takes place, an opening down to the abscess shd be made — I have known such to take place on the thigh by a puncture — On the head by bruises to the Fascia — This shd be immediately dilated or a Blister applied

Tendons when completely divided require no particular treatm^t, bring the divided ends together & keep them so by a proper position, retain them in that situation by bandages splints & rest — Care shd be taken to prevent the skin from intervening between the ends of the tendon —

When the Tendo Achilles is divided as frequently happens, it is necessary to keep the foot extended on the leg in position

+ See Page 440 for Physick lecture on Bleed^g

bringg the divided ends together — this extension is best preserved by a Splint placed anteriorly, or by a Strap acting fm some fixed point on the heel above

Bandages on the upper part of the leg have excellent effects in compressing the muscles of the tendon & preventing their action wh wd draw the superior portion upwards fm the inferior — they are also useful in affordg the fixed point above for the heel strap to act from

Wounds of the Veins seldom give much trouble, hemorrhage fm them is easily stopt by compression; but the danger is that they are apt to inflame if a union of their sides do not take place. —

All the coats of a vein take on inflamn of that too of the adhesive, suppurative & ulcerative kind — Mr Jn Hunter has proved this & applied it to the explanation of what

takes place after V.S. — In the first case the vein does not unite, a thin watery fluid is thrown out, this goes not very deep for the vein has united by the first intention

2°. the external Orifice may heal, & also that in the vein & the abscess be seated between — this also discharges & soon gets well.

3° the whole course of the incision refuses to unite, goes on to the different stages of inflam^n & communicates to the internal surface of the vein —

In veins commonly the collection of pus is prevented by the circulation, but in some cases the edges of the inflamed cavity unite, & thus an abscess is formed — the adhesive obliterates the cavity of the vein —

These effects acct for the inflam^n after V.S. it^n is generally laid to the charge of the Operator, to his want of Skill, puncturing a nerve tendon &c — or to the peculiar state of

the Constitution — But they occur when no nerve is situated near, & often the V bleeding in the same patient is quite harmless — If the orifice does not heal by the first intention here follows its consequences the edges of the wound inflame become tumid & ulcerates — the external surface around the wound becomes red resembling Erysipelas, & in some instances has been mistaken for it. — There is often a stiffness of the part i.e. when it occurs at the elbow. If this inflam.ⁿ of the insides of the vein be not arrested by the ad: inflam.ⁿ uniting the surfaces of the inside of the vein; it then extends along the vein both ways, ending in a succession or string of abscesses, particularly between the orifice & the heart, all wh. require opening. — Sometimes no abscess is formed, but the pus is mixed with the mass of circulating blood. When

much pus gets in in this way it must prove fatal.

Sometimes the coats of a vein near the skin ulcerate & an abscess is formed no way different from common abscess, when the coats are destroyed

If we can bring the sides together, they will unite, & the cavity be obliterated - hence we sh^d use pressure. - When therefore inflam^n takes place so as to alarm the Surgeon, he sh^d apply a compress on the vein above, so as to stop its progress by exciting adhesive inflam^n & thus obliterate its cavity. Apply a blister over the inflamed part, & protect the orifice by a small strip of ad: plaister

Mostly only a small degree of inflam^n forms around the external wound. Sometimes 2 or 3 abscesses form in the vein. The saphena has been known to inflame all up the leg & has been opened in 2 or 3 places. In the case of Horses where the veins

have been wounded, inflam^n has continued to the heart & bro't on death, or it has been induced by the pus circulating to the heart. This happens fm the pin being thrust thro' the coats of the vein, it ought only to pass thro' the skin.

These dangerous symptoms wh appear after Ref. then, are occasioned by inflam^n consequently the operation of wholly dividing nerves can do no good, as punctures of nerves have nothing to do with the disease. To prevent this ~~operat~~ inflam^n requires particular attention in the operator; he sh^d immediately & accurately close the orifice — this is done by puckering the skin — One hand sh^d push the skin towards the orifice & the other the compress on the other side so as to throw it into folds. Pledgets of linen are preferable to ad: plaister, the former by retaining the blood facilitates the union, & the plaister keeps it soft

as I have observed in compound fractures, when keeping the wound dry evaporation has caused a scab, tis much better than when Ointment has been used — the compress shd be made of linen & shd be large to prevent secondary hemorrhage

Gun Shot Wounds —

On this subject see Hunter. — When fire arms were first introduced the wounds made by them were thot by some to be poisoned, by others burnt; & the ancient mode of dressing tended to keep alive this opinion. — The symptoms are indeed very peculiar, but capable of being explained on the common principles of Surgery, without with the ancients believing them poisoned. — Being made by obtuse bodies, they

partake both of the nature of lacerated & contused wounds - When the velocity of the ball is very great it kills all the parts with wh it comes in contact - such wounds never heal till a Slough is thrown off wh occurs in 10 or 12 days when a hemorrhage is apt to take place - (they never bleed much at first) this shews the necessity of a Surgeon having all the apparatus for stopping a hemorrhage in readiness about the time that a Slough is expected to be thrown off The degree of Contusion varies accord^g to the velocity of the ball when it enters the body If the ball passes slowly the parts will be simply torn open or lacerated, but not always killed. - When not killed they may heal by the first intention - It is owing to the less velocity of the ball at the part where it comes out of the body that the wound at this part heals easier than the wound where it entered -

The Treatment of Gun shot wounds shd be the same as similar wounds however produced. — If any prospect of success appears attempt the union by the first intention. — When the parts are killed, this mode of repairing the injury will not answer. — The custom of indiscriminately dilating Gun shot wounds is a bad one; they shd not be dilated but under peculiar circumstances —

I If a ball be lodged in the neighbourhood of the Larynx so as to impede respiration it is necessary to dilate the wound & extract it immediately

IId If much hemorrhage takes place, it is necessary to dilate to take up the bleeding vessel. —

IIId If the Brain, Cranium, or Scalp be wounded we shd dilate that the state

of the bone may be known. Some Surgeons think that the danger from inflam^n & suppuration when the skin is wounded is so great that in every instance a portion of the bone th^d be taken out with the Trephine. If bad Symptoms have not actually appeared I w^d be for deferring the Operation, & trust to the liberal use of Evacuents – A bread & milk poultice th^d be used. – If the skull be fractured it is necessary to remove the extraneous peices of bone – remove the ball also if it can be easily got at. – In all gun shot wounds if the ball can be easily got at it is proper to extract it – the Patient is always easier in his mind when this is done, but I w^d by no means attempt to search for the ball with long Forceps & probes, much probing adds to the Original injury of the wound – & balls often remain a long time in the body without inconvenience, a sac being formed round them by the adhes: inflam^n – More=

over the circuitous direction of balls will ever form a valid objection to searching for them. – Instance of a ball that ran completely round the thorax under the skin presenting an appearance of having gone directly thro' the body.

The best local application to Gun shot wounds till suppuration is established, & the dead parts cast off, is a soft poultice; but if inflam^n is absent it must be excited by the application of stimulating dressings. Tis however often necessary to avoid all stimulating applications –

As after all severe accidents the mind is commonly very much disturbed & there are shiverings, cold extremities, cold sweats &c we sh^d prescribe a sudorific anodyne as Dovers powder w^h relieves these bad symptoms

In Gun shot wounds inflam^n is apt to run very high, hence many have advised very copious V.S. to prevent it. – I think V.S.

ought be delayed till inflam^n has actually occurred. Some Surgeons have recommended V.S. in all cases. But it is certainly not proper in every case. Tetanus &c have supervened when inflam^n has been prevented, or suddenly removed by evacuents. After Tetanus has occurred amputation will be attended with no advantage. A case came under my notice where the Surgeon amputated after the occurrence of Tetanus, & death immediately followed.

Wounds of the Limbs made by Balls. Here the bones are often fractured. These are to be treated as compound fractures, remove the loose fragments & guard against violent inflam^n.

Wounds of the Head shall hereafter be particularly considered. When occasioned by fire arms they require no peculiar treatment.

Gun Shot Wounds penetrating the Thorax are apt to excite very violent inflam^n to remove a^t it is necessary that V.S. be carried to a very great extent.

Many instances of this practice might be adduced particularly a case a^t came under the care of Dr Rush, a valuable life was saved by abstracting 120 ℥ of blood in a short space of time. Besides V.S. it is necessary to apply blisters round the thorax externally & to confine the Patient to very low Diet.

When the injury is done to the Spine all the parts below become paralytic. If the ball enters the Spine in the Neck above where the Phrenic Nerves go off it is instantly fatal for the Phrenic Nerves will be injured, they supply the Diaphragm by a^t respiration is performed.

Wounds of the Abdomen from Balls are more or less dangerous according

to the extent of the injury, & the nature & importance of the parts wounded. The interrupted suture ought be used in wounds of the abdomen —

Liver. If this be penetrated to any depth, it is very commonly fatal from the great effusion of blood. The symptoms are depression, weakness, syncope, Hiccup & insatiable thirst —

Bladder. Wounds of the fundus of the bladder allowing its contents to escape into the general cavity of the abdomen are always fatal. But wounds of the neck of the bladder are not so dangerous —

Stomach There will be depression nausea, & vomiting; & if the kidnies or bladder be wounded, bloody urine. Neither wounds of the bladder or kidnies are necessarily fatal, but they become so by the escape of the urine into the Peritoneum &

communicating with the belly, thus exciting Peritoneal inflam^n.

In Wounds of the Stomach & Bowels, if neither solid nor fluid matter escape the danger is very great from violent Peritoneal inflam^n. In all these cases keep the Patient on very low diet, & the parts perfectly at rest — Superficial dressings to wounds as simple cerate spread on lint. If inflam^n occur v.s. Blisters, fomentations & extern-ally. — If a portion of the Intestine is found to protrude & uninjured, it is to be immediately returned. — If injured bring the ends together by a suture, cutting off the threads close to the knots & then return the intestine —

<u>Balls often pass thro' joints</u>. When thro' the larger joints endangering the loss of a limb, & even of life. If the velocity of the ball be great & the bones shattered, they must suppurate. Sometimes they heal by the

first intention – Case where a ball passed between the Patella & Condyls of the Os Femoris & healed readily in this way. When the velocity of the ball is great, & the parts below are killed & there is danger of inflam^n suppuration & Hectic fever. – Or if the large joints & soft parts are extremely torn & shattered, amputation is advisable provided inflam^n has not commenced – And where amputation is advisable & there is good reason to think it will have to be done at all, the sooner the Operation is performed the better. – I always choose to perform it in the first instance, as the Patient will not only bear the operation better, but he will be saved f^m the danger of an extensive lacerated wound, & prevent danger f^m mortification extensive suppuration & Hectic, & perhaps Tetanus.

Ulcers.

Having treated of inflamn & wounds we come next to treat of ulcers as a consequence of them. These form a great part of the practice of a Surgeon hence it is a subject well worthy of his attention. Having treated of the method of nature in removing parts, we now come to the cure

Ulcers are often the consequence of wounds & other injuries – It is however generally of but little consequence to know the causes of ulcers but to know the proper treatment of them is a matter of the first importance.

Ulcers are divided into

1 Healthy ulcers
2° Inflamed "
3 Fungous "
4 Odematous "
5 Sloughing "

6 Indolent "
7 Carious —"

8 Ulcers attended with a varicose state of the veins

9 Ulcers attended with or preceded by general or local diseased action. These include Vent. Scrophulous, Cancerous ulcers &c

Healthy Ulcers

When an ulcer is situated in a healthy part & the constitution sound, granulations arise having the appearance of small red points or grains. Before this takes place however there is a secretion of coagulating lymph wh. becomes vascular, & wh. Pt. these granulations are formed.

From such an ulcer, pus, nearly of the colour & consistence of cream is secreted. When free suppuration is established the inflam.n & swelling subside, & the granulations if brot into contact have a dis=

position to unite. - At this time it is proper to approximate the sides of the Ulcer as much as possible, by this means union of the granulations is effected often in 48 hours. - Granulations also possess a peculiar power of contracting, & thus draw the sides of the sore together. - Sir I have seen a remarkable instance in the extirpation of a Cancerous breast

The advantages of granulations are many - They expedite the healing by diminishing the surface & superceding the necessity of an extensive formation of new parts. - & in the same manner they lessen the parts to a little disease - for vessels newly formed also Cicatrix. & are more easily affected by the exciting cause of Ulcers than the whole surface of the body. - thus Cold has been known to produce sloughing in a Cicatrix where no other part was affected. They are also the source of the new skin; they adhere to the edges of

the old skin, & then the new skin begins

When the granulations arrive at the level of the surrounding parts, the next operation is the formation of new skin to cover them. The process of cicatrisation generally begins at the edges, & frequently at more points than one - Sometimes, particularly in old ulcers, it does not begin at the edges but from the centre. - A beginning cicatrix has a light blue colour - &c. -

Treatment. - In this simple ulcer dry lint must be applied to absorb the pus - over this a pledget of tow with simple cerate, & kept moderately tight by a roller to preserve the parts till cicatrising comes on -

Mr Baynton recommends the approximation of the edges as far as possible by adhesive plaister. Previous to its application immerse the ulcer in cold spring water as this allays heat & inflamn & assists its

power of Cicatrization. The Strips of ad: plaister are not to be drawn too close together, as this confines & retains the pus; & thus an abscess might be produced for the pus wd press on the tender granulations & cause ulceration. To facilitate the removal of the ad: plaister so that we may not irritate the Ulcer it is advisable to wet it with cold Spring water 1/2 an hour or an hour before withdrawing it. — If the ulcer be on the leg these Strips are to be retained by a Roller from the foot to the knee applied so as to compress the parts considerably —

When granulations become Stationary, are indolent, & do not cicatrize, this process may be hastened by the application of blue vitriol, Spirits, powder of galls or Rhubarb If these fail, exposure to the air is often useful especially if the sore be small; by this

means a scab will be formed & the cuticle will grow underneath —

If on the contrary they are too redundant & granulations shd rise above the surface of the surrounding skin the caustic must be applied —

Diseased Ulcers —

These ulcers are mostly seated on the leg. The Bruspels of the inferior extremities & particularly the veins are of a finner texture in a natural state than those of other parts of the body — This provision is intended to obviate the effects of gravity in the circulation of the blood

Circumstances wh retard or impede the healing of Ulcers —

I Ulcers on the legs are generally most difficult to cure fm the influence of gravity the column of blood pressing on the newly formed granulations, ruptures them, these

newly formed parts being too weak to circulate the blood — this sluggishness of the circulation shd be spurred on or it will stop altogether. From the rupture of the granulations they are destroyed blood is discharged, irritation excited, & secretion of good pus is prevented; after this the whole process of restoration will have to be renovated.

If the vessels are not ruptured, & the blood stagnates, a purple hue or black colour is produced, the vessels are kept upon the stretch & the same bad consequences as occur fm the rupture of the vessels is the result. By the purple hue of the granulations or effusion of blood in an ulcer we can tell when contrary to our directions our patients have been exercising.

Treatment — I strictly enjoin rest, and place yr patient in a horizontal position until the cure is effected.

2d If yr patient cannot submit of con-

form to this, the application of bandages over other dressings becomes necessary: these bandages are of 3 kinds viz laced stocking, roller & adhes: plaister. the roller is generally the best — the laced stocking is very good when it fits well, but this is very difficult to effect. (the laced stocking is very good wh) By the help of these bandages ulcers heal while the Patient is walking about, but not so soon or easily as if they had been at rest. —

There are some few indolent ulcers wh form exceptions to this general rule. the applications of splints &c have been found useful —

IIdly. The second impediment to the healing of ulcers is an Oedematous state of the limb, or part of wh the Ulcer is situated. the pressure of the fluid effused into the cells of the cellular membrane, will keep the newly formed parts constantly on the stretch, this by irritating will produce inflamn & cause

the newly formed parts to slough

Treatment. - If practicable confine the Patient to bed & in a horizontal posture, if not apply bandages as before directed. These shd be applied in the morning before the Patient gets up when the tumefaction is least having been diminished in the night by rest & a horizontal position.

III The third impediment to the healing of ulcers is the ~~Obstinatous~~ practice of stuffing them with lint, a dressing to the bottom as it is called. This in Fistula in Ano particularly has been very much practised, & has proved very prejudicial. This practice of stuffing in dressings keeps up the irritation & intercepts the process of union. Under this head may be classed the application of improper powders, Salves Washes &c wh only serve to produce irritation, & renew the ulcer as often as it is disposed to heal.

IV The fourth impediment to the healing of Ulcers is whatever impairs the health and strength of the Patient. — Intoxication is very prejudicial — very hot & very cold weather are equally injurious. Simple strength or weakness do not impede the healing of Ulcers. — that the general state of the system has an influence on Ulcers is evident from the fact that Pleurisy has been known to cure them by producing a change in the system.

This treatment may do for recent & healthy Ulcers, but when they have been of long standing they are in their appearances & circumstances very different from that we have been considering, & 'tis these circumstances & the counteracting of them that we are now to consider

Inflamed Ulcers.

The parts are painful, hot & red. Sometimes instead of pus being produced coagulating lymph is extravasated on the surface, & a membrane is formed similar to a membrane fm inflamn in other parts of the body.

Treatment. The Antiphlogistic plan, low vegetable diet V.f. & purging are to be pursued. The best application is a poultice of linseed meal, warm water & lard or oil. When the state of the constitution renders evacuations improper, elevating the diseased limb above the rest of the body has been very beneficial, this weakens the force of the circulation in the inflamed part. After the inflamn is reduced it is to be treated as a simple ulcer.

Fungous Ulcers

Large granulations rise above the level of the skin, having no disposition to form cuticle, & sometimes they are so sensible as to bleed from the slightest touch while at others they are but little sensible —

Treatment. Pressure by means of a roller or adhes: plaister & lint is to be used. When pressure proves insufficient to repress the fungus, apply the caustic, & if the ulcer be small to the whole surface at once: if large, only to a part —

Astringent applications are often useful to contract the vessels, as powder of galls & preventing the necessity of using the caustic — they have produced sloughing. Bell recommends a solution of bardil crease, crude sal ammon, calcined alum & precipitate. When the fungous is destroyed it returns

to the state of a simple ulcer & is to be treated accordingly.—

Fungous ulcers are very apt to occur from burns; in this besides the other applications mentioned, Basilicon has been beneficial & perhaps it derives its advantages from the Turpentine wh it contains

Oedematous Ulcers.—

These are ulcers situated on an Oedematous state of the limb, & are tender & painful. There are granulations of a purple dark colour & apt to slough. Dark spots exist in the ulcer.—

Treatment. In general the same as for the inflamed ulcer, viz evacuations &c These are however sometimes not indicated, & in this case the limb sh be elevated. After the ulcer is brot to the state of a simple ulcer, bring the sides of it together, & apply

ad: plaisters bandages &c

Sloughing Ulcers

Sloughing ulcers appear to arise from the weakness of the granulations, the Cicatrix becomes black & sloughs. It sometimes depends on local causes for it occurs in one leg while the other is free from any such affection. Sometimes one part of the ulcer is sloughing while the process of forming new skin is going on in another, but generally the whole of the ulcer sloughs at the same time. It is always attended with considerable pain, & with inflamm^n in the contiguous parts

The Treatment is nearly the same as for Mortification. Nourishing diet, Cordial & tonic remedies, Bark opium & blisters are to be used. A light poultice shd be applied, I say light for it must not be

oppressive by its weight, in order to promote sloughing. – The application of a poultice made by grating carrots in milk hastens the seperation of the sloughs, & to promote suppuration. – Fomenting poultices with Charcoal are used to advantage to correct fetor. – When the sloughs have seperated, the sore is in the condition of a simple ulcer. –

Maggots sometimes form in the ulcer – a wash of Nitric or Muriatic acid very well diluted will destroy them

Under this head it is proper to notice a variety in this species of Ulcer wh occurs in weak constitutions such as are debilitated by strong drink, the granulations arise, new skin is formed & but they are constantly destroyed by ulceration taking place, wh often enlarges the surface of the ulcer. –

Treatment Strengthen the granulations by a stream of cold water for 10 or 15 minutes 3 or 4 times in 24 hours, & prescribe nourishing

diet, bark & the stream of cold water may be added a little lunar caustic but not so strong as to render it escharotic. Ung Citrin: & the application of lint soaked in an infusion of galls tout bad may be added are both very beneficial — A poultice of grated carrots in milk has been used, & charcoal to correct fetor & stimulate the parts to discharge the slough — Blisters &c —

Indolent Ulcers.

The edges are hard tumefied & elevated there is no disposition to cicatrization. The elevation & callosity of the edges are the consequence of frequent inflam^n & extravasation of the lymph in the cells of the cutis w^h remain unabsorbed, & keeps the edges in a distended & hardened state.

Treatment. If inflam^n occurs remove it by the usual remedies. The edges th^e-

be completely removed by the knife & Lunar caustic applied to the centre of the ulcer for a considerable time. Firm compression by bandages has answered — Mr Baynton says ad: plaister wd be sufficient. —

Mercury when given till it excites Ptyalism is often very useful; it disposes the system to a healthy action, & thus possesses considerable powers in the cure of ulcers, even when there is no venereal taint. —

Many remedies have been found useful in these ulcers as Gastric juice, diluted nitric acid, Red Precipitate. —

Carious Ulcers.

Every Ulcer, says Bell, seated upon or communicating with a Carious bone may be called a Carious Ulcer — Here a portion of the bone being dead it gives the stimulus of dead matter to the contiguous parts — thus keeping up irri-

tation & preventing healthy action. They cannot heal till the bone is extracted. A bone in a carious ulcer is so surrounded by granulations that when loose it is not easily moved about, so that you cannot judge by the motion. The best method of ascertaining whether a bone be loose when it is out of sight is by pressure on the bone thro' the fistulous opening, with a probe. If it be loose pressure on it will give great pain & frequently hemorrhage for the detached bone pressing upon the granulations. If the bone is not detached press upon it as hard as you please & no pain will be excited, nor can the motion of the bone be perceived.

It is of importance that we ascertain what the state of the bone is, for it is often so situated that it wd be dangerous to dilate, hence we shd not do it unless the bone can be extracted, for it wd be only enlarging the ulcer & giving a great deal of pain, & perhaps the operation wd have to be repeated when the

bone became loose.

When we are satisfied that a portion of the bone is loose it must be extracted. In order to do this, the fistulous opening must be dilated, wh. may be effected by a Sponge tent, & when this is competent it is preferable to dilatation with a Scalpel as by using the latter there is danger of wounding the Bresoels of the part. The opening may be sufficiently enlarged by the Sponge tent to admit the introduction of the bone nippers, by wh. the detached bone may be bitten into small fragments & extracted. When this is done the ulcer is reduced to the state of a simple ulcer & generally heals

Varicose Ulcers

These are ulcers depending on a varicose state of the veins. The Branches & Trunks of the veins being distended beyond

their natural size prevents the healing of the ulcer wh in appearance is similar to the indolent.

Treatment. - Pressure by the laced stocking bandages or ad: plaister have been employed; but the great objection to these is that they must be kept constantly applied after the ulcer has healed, for if left off the ulcer wh was healed by their use often breaks out again the application is also very inconvenient to the patient

The best method, & the only one that remains after the failure of the bandages, is the operation, this consists in taking up the Vena Saphena & put a ligature on it on the inside of the knee joint where that vein crosses it; thus obliterating its cavity.

This method is particularly recommended by Mr J Hunter & Home. As the ulcer is supposed to be situated below the knee, & the ligature is made at the knee, you might

suppose that this wd only increase the distention of the vein; but we observe that a varix arises from a defect of the valves for they are found hardened & this allows the enlargemt from the gravity of the blood; hence the ligature by acting the part of a valve obviates this, & the blood finds its course thro' the deeper veins —

In performing this operation Dr Home directs the Patient to be placed in an erect posture wt will cause a distention of the vein; but this is very inconvenient to the Patient. I generally apply a Tourniquet on the thigh so as to compress the veins, & leave the arteries free, & then lay the patient down & proceed to the operation. — The inside of the leg being opposite the light, a portion of the Skin shd be pinched up between the thumb & finger of the Surgeon & assistant, transversely across the vein, & divided by a Scalpel with the back of it towards the vein — A fascia surround — the

the vein shd be carefully dissected & the vein secured by a needle, but the Patient shd be put to bed before the ligature is drawn this shd be done in such a way that the veins may be distended as much as possible before the ligature is tied — the leg generally heals in about 8 or 10 days but its best to remove the ligatures about the 5th. Some care is necessary in removing the ligatures for it lies at some depth, & without caution the vein may be hurt. I make a small roll of linen or lint of the shape & size of a goose quill, lay it down on the vein, & include the vein & it in the same knot, so that by introducing a small Bistory or pair of Scissors thro' the ring of the ligature it may be easily divided — the external wound is to be secured by a d: plaister leaving a space for the ends of the ligature.

Sometimes the Vena Saphena is accompanied with a smaller vein wh continues

the Ulcer – this must be treated in the same way. This sh^d be adverted to when you operate, for they may both be included in the same ligature.

Sometimes the Vena Saphena Minor running on the back of the leg is the seat of the varix, & sh^d be treated in the same manner but this is a rare case

From the different veins or branches of veins on the leg being varicose, it is sometimes difficult to know the exact one that is to be taken up, but we must warn our Patient of the imperfection of Surgery, & then go on repeating the operation till the right vein is secured – Not much inflam^n attends this operation – Sometimes it takes place in the course of the veins under the skin but this is not dangerous

Ulcers attended with or preceded by particular diseased action either general or local. — The different kinds included under this head are so numerous that to consider them would be endless

If the diseased action is only local the removal of the part puts a stop to the disease as in Cancer &c — Cancer Chancre, Ulcer after Bubo &c — if it can be done shd be extirpated completely by the knife or caustic, & this reduces it to the state of a simple ulcer.

When ulcers depend on constitutional affections, the constitution must first be remedied, or the ulcer will never heal —

There is a species of Ulcer like a Bubo &c — follows the Venl — When the ulcer goes on the edges appear as if they were worm eaten, & the part first eaten heals. — It resembles the ring worm. — The knife & caustic are to be used the first is the best —

Fractures.

By a fracture is meant a complete solution of the continuity of a bone. This is generally effected by sudden external violence, but sometimes, particularly in fractures of the Patella, by the action of the Muscles. It is a remarkable circumstance that Drunkards very rarely have their bones broken, this is probably owing to all the muscles being relaxed — the muscular power being feeble, no one muscle or set of muscles are particularly exerted, hence the concussion is borne by the whole body, & not by one part — when a person is not in a state of intoxication, probably for the muscles being in an opposite state, the bones are then most easily fractured —

It has been said that fractures occur most frequently in winter; if it be so it may arise for the muscles being in a more contracted state

at that time, it cannot be fr the Cold affecting the bones. - A man walking over ice has every muscle in action, hence the violence of falls at that time wh are very apt to induce fractures -

When any of the bones of the extremities are fractured the pain is generally considerable fr the ends of the divided bones pressing upon & irritating the soft parts; there is more or less distortion of the limb, & it is generally shorter fr one portion of the fractured extremity of the bone overlapping the other, occasioned by the contraction of the muscles.

Fractures are divided into Simple & Compound; & such as are compound at first may sometimes by proper treatment in the course of the cure become simple. This is called compound simple

A simple fracture is where the bone is broken but does not communicate externally. -

In the Compound fracture the bones are

pushed thro' the skin, & the fracture has a communication externally thro' the wound.

When the external wound is small with little contusion, & the wound cut as it were with a knife, by applying ad: plaister it may often heal by the first intention, & when this takes place the compound fracture is changed to a simple one.

Simple Fractures

In simple fractures the object of the Surgeon ought be to place the ends of the bone in complete apposition, & to keep them so till union is effected. — In fractures of the limbs, if we place the limb so as to relax the muscles, this is what we call flexion, there is seldom any difficulty in replacing the extremities of the fractured bone in their natural situation. As soon as this is done, the pain, convulsive twitchings, & generally cease immediately.

If the ends of the bone cannot be replaced

by flexion & extension, we must bleed till the Patient faints, & then the extension can be made & you may easily replace the ends of the bone. When thus placed in apposition, they are to be retained by Splints & bandages.

Splints are of various kinds, of leather, wood with linen or leather glued on it, whale-bone prepared in the same manner, & Pasteboard. I think the last are preferable, because when soaked in warm water or vinegar & applied, they readily accommodate themselves to the shape of the limb; & after they have received the proper shape they must be dried, & then they are sufficiently firm for answering the purpose of the bone. Over this the roller is applied. Splints shd be constantly applied till union is effected

It sometimes happens that we are not called to cases of fracture until considerable inflam^n swelling & have taken place; Here previous to making any attempt to replace the

ends of the fractured bone, we must moderate the inflam^n. The best application is a poultice of bread & Milk with Sacch: Sat: & if necessary V.S. low diet Purge &c As a general rule it is proper to remove the dressings in about 8 or 10 days, & see if there be any displacement of the bone, the matter being then soft, it may be easily replaced; & if the bandages are too tight they must be loosened.

During the whole course of treatm^t we must guard against inflam^n - it is generally necessary to keep the Patient to low diet & when evacuations are necessary V.S. is preferable to any other mode of depletion. Purging is very inconvenient on acct of the motion it gives the Patient; keep the body gently open by some mild laxative. Many persons are so weak when they receive fractures that evacuations of every kind is forbidden here the Patient must have nourishing diet &c

If after the bone is set the bandages applied (wh. shd not be applied too tight so as to obstruct the circulation for mortificat^n &c. wch enuse) much swelling occurs, the bandages must be removed, for by pressing the soft parts with force against the ends of the bones may produce ulceration, & thus convert a simple fracture into a compound one. —

The time necessary for an union of the bone is varied by several circumstances, the age, constitution, part affected &c. Bones of young people unite in a shorter time than those of old persons. Fractures of the Jaw or Ribs will unite sooner than those of the legs. —

When a fracture communicates with the cavity of a joint it requires a longer time for the bones to unite. Those persons are in an error who suppose that the bones of pregnant women will not unite for they unite as readily as fractures in men. — In some constitutions, the bones do not speedily unite at all, but the part re

maining flexible, a kind of joint is formed wh allows of some degree of motion, no pain being excited thereby. — the ends of the bone are sometimes really tipped with Cartilage — in this case as a last resource — Hunter & Boyer advise cutting the part & sawing off the ends of the bone forming the joint, thereby reducing the whole to the state of a recent injury — See Boyer — this is a very cruel operation & always necessarily induces a shortening of the limb. — In one case that came within my observation the operation was performed without success, & the Patient was obliged to submit to amputation to save his life. I have never performed this operation, but I have often succeeded without it, by causing the Patient to exercise the limb by moving it about, or gentle pressure of it on the ground &c By this means the ends of the bone are rubbed against each other & the surrounding parts exciting pain & inflamn which produces Coag-

ulable lymph, & the parts are stimulated to form bone & thus affecting an union

Hunters idea of simple incision down to the bone is objectionable, for tis difficult to keep an incision open, the granulating process will go on & union take place. Instead of this operation proposed by Boyer, it is better to pass a seton between the fractured ends of the bone wh will produce the desired inflamn or action. — In one case I succeeded in this way here the seton was continued for 12 weeks before any benefit was derived. In old people I suspect it will be found necessary to continue the seton in the part a much longer time. See the Medl Repository of N. York

Simple fractures are united by the first intention, or by the ad. inflamn the same as in muscular parts, only the former requires a much longer time. First blood is shed on the extremities of fractured bones wh coagulating soon becomes vascular, & in time of a carti=

laginous hardness, & then bony. There is callous formed, but this bond usually surrounds the fractured part making this thicker than the other

In Compound Fractures there is also a solution of the continuity of the soft parts, the blood flows out of the wound & this bond of union is lost. — If the wound is so circumstanced that union can take place by the first intention it prevents suppuration mortification &c. — Inflam" is generally so great as to prevent the fractured bone from uniting by the first intention, suppuration takes place, the ends of the fractured bone often die & the mortified part comes away. — The ends of the bone granulate, these granulations unite become bony & the part becomes strong.

Compound fractures differ according to the circumstances under w^h they are communicated. — Sometimes the sharp ends of the bone denude the soft parts in a way similar to

simple incision. There the injury is not very great. More frequently there is considerable laceration. Sometimes as in cases of a loaded waggon passing over a limb, there is great contusion of the soft parts & the bones are generally much shattered.

Compound fractures are sometimes attended with profuse hemorrhage. The first thing to be done in this case is to apply the ~~hemorrhage~~ tourniquet. Next if the bleed^g vessel can be seen apply a ligature on it immediately.

The question now occurs whether or not in compound fractures we must amputate?

I When there is a great deal of contusion & no blood can make its way to the injured joint, as the death of it w^d ensue, we cannot doubt the propriety of amputation. It has here been asked whether it must be done immediately, or wait till after the parts separate. I think it proper immediately to amputate.

II If profuse hemorrhage proceeds from the

Orifice of vessels wh cannot be detected, some have thot it necessary to amputate the limb but I have never found it necessary, the hemorrhage may generally be stopt without it In the case related by Gooch of Hemorrhage from an Artery within the bone wh was as large as a Goose quill, he used perpendicular pressure so as to press the sides of the Artery together — I think the hemorrhage might have been stopt by introducing Cedar plugs between the bony channel & outside of the vessel. — If the Orifice of the bleeding vessel cannot be seen, the hemorrhage may possibly be restrained by tying up the trunk of the principal Artery supplying a limb as in case of Aneurism. Its certainly better to try this than so precipitately to amputate the limb

It has been the practice to cut out a portion of the Fibula to take up the Posterior tibial Artery, perhaps this last is preferable as the danger of Mortification is not so great. I have

+ other end

cut down on the posterior part of the leg & taken up the posterior Tibial Artery with a small crooked needle firmly embraced by a pair of very fine forceps & pushed thro'; then disengage the forceps by cutting the string w^h secured them at the other end; & again applying them to the outside of the needle w^h was passed thro' pulling it out, & tie the ligatures

If this is found impracticable the Crural Artery must be taken up about the middle of the thigh

III Mortification taking place to a considerable extent is thot to be another circumstance justifying amputation. The operation ought never be performed while mortification is progressing, as the disease w^d in all probability continue on the stump; but after the seperation of the dead parts the operation may be performed if necessary. Generally there is nothing left for the Surgeon to do but to saw thro' the bone

IV When suppuration is very profuse wasting the strength of the Patient & attended with Hectic, it is proper to amputate

V Amputation is necessary in cases where the extremities of bones forming joints are much shattered. Sometimes it is true the Patient recovers with a stiff joint, but even these cases are rare, they are generally fatal.

Some say tis best to wait till inflam^n has come on & terminated before we amputate; but if fr the extent of the injury it is indicated we sh^d amputate as soon as possible, as we shall save the Patient fr irritation &c

In most cases of compound fracture however, the limb may be saved: with this view we sh^d put the bones in opposition as in simple fracture. Sometimes the ends of the bones are protruded beyond the flesh & tis difficult to return them. Some advise the cutting off the ends of the bones. But I have never found it ne-

cessary either to dilate the wound or saw off the ends of the bone. If the Muscles resist the reduction of the bone it may be overcome by V.S. ad deliquium animi. Next remove any extraneous bodies as pieces of seperated bone &c if they can be easily got at, if not avoid searching for them. If the wound be small bring it together with ad: plaister &c then wet with blood a scab is formed, & the wound will heal; or if the wound be exceedingly small, a plug of dry lint will be best. —

Sometimes it is impossible to bring the wound into contact — & sometimes the parts cannot be kept in contact, on acct of inflamn & tension producing a seperation by loosening the ad: plaister. In this case the sides of the wound open & a clot of blood forms in the cavity, projecting a little way out — Many of you will perhaps be disposed to extract this clot, but it never shd be done, as it wd produce suppuration &

other bad effects, whereas by suffering it to remain it will readily heal —

Uniting by the first intention changes the compound fracture to a simple one, this frequently succeeds & no inconvenience results from the trial — I wd therefore recommend to you to endeavour to unite compound fractures by the first intention. When they do not unite in this way inflamn is generally very violent this attacks the ends of the bones sometimes & they die & must seperate — hence we shd guard against inflamn by the Antiphlogistic plan, V.S. &c —

After inflamn is removed if weakness occur tonic remedies are necessary

If mortificatn takes place it is to be treated as described when speaking of that disease

If attended with active pulse V.S. If great weakness occur, Bark, Wine &c — blisters to the part —

The mode of dressing compound fractures I shall demonstrate to you hereafter —

We next proceed to Fractures of Particular parts.

Bones of the Nose

These seldom are fractured directly in front but generally on one side. The fragments broken off being depressed in some measure impedes the passage of air into the lungs; & affects the voice

All that is necessary to be done is to elevate the depressed bone with a firm probe, a Director or female Catheter is best, & retain moisture over the part for a short time by the application of ad: plaister. Put the probe into the Nostril & press the bone with your finger on the outside in its proper place but if the bone has a tendancy to fall inward introduce a piece of lint up the Nostril. No muscles here are sufficiently powerful to displace the bone again. — If the soft parts are

much injured apply a poultice of bread & milk &c. — In 2 or 3 weeks the fracture will heal. —

Fractures of the lower Jaw.

This occurs at every part of the bone On each side of the Symphisis, at the Symphisis, or between the chin & angle of the jaw; in an oblique direction generally. —

Sometimes the Condyloid process is fractured; but the Coronoid never, as it is defended by the temporal muscle & the Zygoma. I have had several cases of a fracture of the neck of the Condyle of the lower jaw. — In one case the Condyle was dislocated & pushed out at the Zygoma; it was however easily replaced.

The fragments are always displaced upwards & downwards, never before or backwards — One portion ascends the other descends —

You may ascertain the existence of the

fracture by passing yr finger along the base it being so thinly covered with muscles you can easily detect it —

2d By the grating of the fragments on attempting to move the jaw.

3d By observing whether the teeth be on a level. When the bone is fractured the teeth on the 2 fragments are not on the same level. The particular point of fracture may be known by some of the teeth being forced out or very much loosened. — It has been advised by some Surgeons to extract all the loose teeth immediately — they say it will give an opening for the food to be taken in, but it is not necessary on that account for the Patient is to be fed only on liquids — This practice I wd warn you against, as it converts a simple into a compound fracture, this will be likely to give pain & inflamn. Case where this practice was adopted, followed by an extensive Sungous, & other symptoms of ult the

patient died. — Tie the loose teeth to the firm ones adjoining with a piece of silk, the silk must not press on the gums, as it will be apt to induce inflam^n. — Or the upper teeth will keep them in without tying. — The teeth will then be on a level, & adapt themselves to those of the upper jaw. —

It is easy to replace the fragm^ts grasping them & raising the teeth to a level. The upper jaw is the best splint to the lower one. — All therefore that is necessary to be done, is to press the under to the upper jaw. — Apply a roller round the chin & head so as to keep them in that situation. I generally put a piece of adh. plaister or leather round the jaw as it saves the skin from the pressure of bandages. — A bandage with 4 heads has been proposed with a hole in the middle to let the chin thro', but the simple one is the best. — It shd be paped below the chin & over the head, & then transversely

round the sides. — this answers even if the Condyl. is fractured. The Patient shd not move his jaw in any way & must be kept on liquid food till the fracture is consolidated. When there is a wound apply dry lint or ad: plaister. —

This fracture generally unites in 3 or 6 weeks

Fractures of the Vertebra

Fractures of the Vertebra may occur in any part fm the Atlas to the Coccygis, most frequently on the back, next in the loins & rarely in the neck. They are generally occasioned by falls on the back, or by heavy bodies falling on it. —

When the fracture happens in the neck above where the Phrenic nerves go off, or about the 3d. Vertebra of the neck instant death is the consequence fm affecting the Diaphragm. — When below it great difficulty

of breathing & Paralysis of the body below the fracture. The Patient seldom lives in such a case above 3 or 4 days.

There is generally a dislocation of the bone at the place of fracture — but tho' the force applied to produce a fracture of the Vertebra is generally sufficient to produce a luxation yet the former may take place without the latter, as for instance where the Bullet strikes the transverse processes. Where only the processes are broken off probably little or no inconvenience will ensue — But where there is a dislocation or fracture of the Vertebra so as to compress the Spinal Marrow, death must ensue.

When it occurs in the Spine, it is always sooner or later fatal; above the Phrenic Nerve it is instant death. — If the fracture be in any of the Cervical, the patient lives 3 or 4 days — If in the lumbar Vertebra 5 or 6 months, & lower down a longer time, but in a misera-

ble condition, in whatever part it occurs whether in the neck or sacrum 'tis death in the end. — I never knew an instance of recovery. — In fractures of the lumbar vertebræ it is not fm the immediate effects of the injury that the Patient dies; but fm the pressure wh the soft parts undergo by being so long in bed in one position — Mortification is produced by this constant pressure, the circulation is obstructed, an ulcer is formed wh produces Hectic fever & death. —

A fracture of the Spine produces its evils in 3 ways —

1 From a compression of the Spinal marrow whether the bone be fractured or luxated

2° By the Spinal marrow being injured by Specula of bones being forced into it —

3° By the vessels being ruptured & pouring out their contents into the fracture causing an accumulation of blood in the cavity of the fracture wh compresses the Spinal marrow.

Paralysis was once produced by a severe contusion of the back without any fracture of the bone, for a Vessel was ruptured, & its contents shed on the spinal marrow

In Fractures of the Lumbar Vertebræ it has been advised to extend the spine so as to bring the surfaces of the bone together. In a case that came under my care of a fracture between the 5th & 6th Cervical Vertebræ I tried it. In 2 hours I was much pleased for he moved his hands wh he had not done before. In the common time however (3 days) he died.

There is a difficulty in evacuating the contents of the Rectum, & a total suppression of urine. There is sometimes an involuntary discharge of fæces but never of urine. The Elastic Catheter then shd remain in constantly, & plug up the end of it with a Cork. D P. also recommends the use of a bed with a moveable pad at the place where the buttocks lie, that the fæces may

be evacuated without moving the Patient

In examining fractures for the Cervical Ver=
tebra, guard against turning the Patient upon
his belly, because respiration is carried on ex=
clusively & entirely by the Diaphragm. The
other muscles concerned in respiration being
paralytic, & when the patient is upon his belly
the intestines pressing up prevents the Dia=
phragm from descending & contracting itself into
a plane, & speedy death is the consequence.

The Patient that died in the Hospital from a
fracture of the Vertebræ appeared to die from mu=
cus accumulating in the Trachea, & from the ina=
bility of the respiratory Organs to cough it up.

Fractures of the Ribs.

These fractures frequently occur & gener=
ally about the middle. There is not much
displacement of the fragments. A displacement
upwards & downwards is hardly possible

for they are supported by the Intercostal muscles. — For this to be the case the ribs must slap either outwards or inwards as it respects the chest, that I never saw. If this were to be the case it wd be proper to make the Patient draw a long breath. —

This fracture may be known by a sharp pain at the place of fracture when the Patient breathes, difficulty of respiration — By placing the hand over the fractured part when the patient coughs, crepitation will be felt. this cracking noise however may arise solely from air effused into the Cellular membrane, called Emphysema. — If the lungs are wounded the Patient generally coughs up Mucus mixed with blood. —

Treatment. — Apply a broad roller round & round the ribs & thorax pretty tight so as to suspend the motion of the ribs in respiration & induce the necessity of its being

carried on exclusively by the Diaphragm. Over this roller or bandage two shoulder straps sh^d be pinned on to prevent its sliding. When this roller is applied pain & immediately ceases. It sh^d not be removed till union is effected. — At times the Cough returns & there is considerable pain fr^m inflam^n of the Pleura — It resembles the Pleurisy & in fact is to be treated like it — Antiphlogistic treatm^t & — Mucilaginous substances are proper to allay the Cough — I have been surprized to see how efficacious they are. The mucilage of G: Arabic, a little laud: & a small quantity of Antimonial wine form an excellent mixture —

Sometimes when the lung is wounded by the fractured rib, a collapse takes place when the thorax expands — the air within will be rarified, & the external air will enter thro' the mouth, when the thorax contracts it will force the air out by the wounded rib, & into the wound of the Pleura inflames the cellular mem-

brane constituting the disease called Emphysema
When this inflam^n of the Cellular membrane
is Partial, & in the neighbourhood of the fracture
only — a compress & bandage wet with brandy
& some mild discutient, firmly bound round the
cellular texture & closing the Orifice will cause
the extravasated air to be absorbed & thus pre-
vent further mischief. But when Emphy-
sema is universal, especially if much difficulty of
breathing occurs, it is necessary to puncture the
side of the thorax between the ribs to let the
air out — this puts an immediate stop to the
passage of air into the puncture. — this punc-
ture sh^d not be made in the Cellular texture
at the place of fracture as it w^d convert the
simple fracture into a compound one. but
it sh^d be made between 2 sound ribs. The
inflam^n of the cellular membrane of the
body will gradually subside the air being ab-
sorbed & carried away. — If any part be par-
ticularly oppressed, it may be punctured with a

lancet thus letting the air out

Sometimes after the lungs are wounded by a fracture of the ribs the Patient has a very troublesome cough - here demulcent & Opiums in very small doses are very beneficial -

When Pneumonic Symptoms occur, the treatment is exactly the same as for Pneumonia, viz B'letting, low diet &c

Fractures of the Sternum

seldom happen. - I have seen one case of it - To ascertain it we shd make the patient exert the Pectoral Muscle, & then by applying the hand to the Sternum we will discover the fracture - A broad bandage shd be passed round the Thorax

Fractures of the upper Extremities,

& first of the Scapula.

This bone is seldom fractured in any other part than at the Acromion. – Sometimes the Lower angle of the Scapula is broken off by falls on the part. – When this happens the displacement is always perceptible. By putting yr finger on the basis of the Scapula you will be sensible of a vacant place, the lower angle being pulled downwards & forwards by the Serratus Major Anticus muscle – Also by the Crepitus on moving the arm towards the sound part. – The angle wh is broken off stands stationary while the other part follows the motion of the arm. – If it be doubtful whether a fracture exists or not let the shoulder & scapula be drawn back after you have placed yr finger on the lower angle to ascertain whe=

ther it follows the motions of the rest of the scapula. if it does not the fracture certainly exists.

Treatment. — As we cannot draw the angle that is broken off to the body of the bone, we must bring the body of the bone in contact with the fragment & retain it so. This is done by carrying the hand of the diseased side into the opposite axilla, & placing under the elbow of the affected side a pad or bolster in the form of a wedge, the apex being in the axilla. This wedge like bolster seperates the elbow a little from the thorax. — The arm is to be placed so as to get all the fragments into apposition, the arm is to be brought downwards with the forearm forwards. — Fix the hand wch is in the opposite axilla & the pad under the elbow by the broad bandage passed round & round — Prevent the contact of the skin of the thorax & arm by putting linen between them previous to applying the broad roller wch fixes the arm to the chest

Acromion Scapula.

This, for its exposed situation is very liable to fracture, & the fracture is generally transverse. The Coracoid is scarcely ever fractured; it can only be done by a bullet. I never saw it. — The Acromion is broken by heavy bodies falling on it or by severe falls. It is so thickly covered with soft parts that it can be easily felt.

Signs of a fracture of the Acromion. — The part broken off is generally pulled downward by the deltoid muscle & weight of the arm. The arm lies by the side of the body motionless, & there is considerable pain on elevating it. If removed from the trunk of the fractured acromion phophysis will be perceptible, depression on the top of the shoulder & the head generally inclined to the affected side.

The treatment of this fracture is to elevate the arm so that the head of the Humerus

may prep up the fractured portion to its former place, & retain it in this situation by applying a bandage round the shoulder & elbow of the diseased on the sound side, so as to support the weight of the arm thus keep it in its elevated position, the fore arm being at right angles with the humerus. Fix fast to the thorax in such a way as to prevent the motion of the arm otherwise the fractured bone will be displaced. Some soft substance shd intervene between the arm & belly to prevent friction

It is generally necessary to keep the dressings applied for at least 6 weeks

Fractures of the Clavicle.

more generally occur than of any other bone in the body. It is fractured most frequently about its middle, & obliquely, & this obliquity slopes fm without inwards & downwards. It is sometimes fractured near its extremities, & sometimes transversely. When it occurs in the middle, directly across there is great displacemt of the bones & also when the fracture is fm without obliquely inwards owing to the moving of the arm & the action of the Pectoral muscle, the former drawing the Scapular fragmt below the Sternal, & the latter drawing it inwards. But if the bone be broken fm within obliquely outwards, little or no displacement takes place as the scapulary fragmt is drawn down by the weight of the arm is met & supported by the Sternal fragmt over wh it rests

No displacemt. takes place when the fracture is exactly opposite to the ligament that goes to the Carocoid process of the Scapula Nor no displacemt when the fracture occurs between the ligamt of the Acromion process. In the Sternal extremity we find it supported by strong ligaments, of the Sterno Cleido Mastoidens so that it can't be much displaced on acct of the support wh it receives fm the first rib & the Sterno Cleido.

It can't be much displaced near the Acromion Scapula, as there passes a strong ligament fm the Carocoid process of the Scapula to the Clavicle. There is also little displacemt on the Scapula extremity of the Clavicle

In fractures of the Middle of the Clavicle the patient is unable to raise the arm; bends the body & head to the affected side; & we generally find the Patient resting the arm on a table if one is at hand, or support-

ing it with the other hand. The affected shoulder is often evidently depressed & drawn forwards & inwards. — The sternal fragmt of the fractured bone forms a visible protuberance above, or on the side of the shoulder. — You may feel a chink & the motion of the scapular fragment — & by pushing the arm up it may be replaced. — Add to these signs some others wh are still more palpable to the senses. As the mobility of the two broken ends of the bones, & the crepitation produced by their friction against each other, the depression felt at the point of the shoulder &c

When the fracture is transverse & no displacement — to ascertain whether it exists, place your fingers on the extremities of the bones, while an assistant moves the arm in every direction — The motions will be communicated to the clavicle, & if a fracture exists they will be most perceptible in the fragmt next the shoulder

11

& will seperate at Jun the Sternal. the parts covering this bone are so thin that the fracture can be easily felt

Treatment In the treatment of this fracture it was formerly customary to make an assistant place his knee against the spine, & with his hands pull the shoulders backwards; while the Surgeon applied a roller underneath & over the shoulder of the form of a figure 8 croping on the back. This method is subject to many inconveniences, the fragments always overlap, & the bandages press too much, excoriating the armpits impeding the circulation &c. Dessaults method is the best the shoulder shd be pushed upward, backward & outward. the great object is first to counteract the weight & force of the Pectoral muscle. He places a wedgelike pad of Horsehair or flannel under the Axilla, the large end of the pad in the Axilla, around this a simple bandage is to pass to confine the pad to the

body round the chest & ribs. The elbow is then to be put to the body, & a bandage passed around the arm & body to confine it in that situation, & thus prevent the action of the pectoral muscle in displacing the fragments — Between the belly & palm of the hand interpose pieces of linen for the Patient always complains of friction there. The arm is to be supported by a bandage passed round the hand, & a hole cut thro' it for the thumb. this is to be fastened to the bandage wch is already round the body. — After returning the pad under the arm & always feel the pulse to know whether the artery be compressed —

The next thing to be done is to take off the weight of the arm — this is done by passing a bandage (suppose the right clavicle to be broken) from the left shoulder down under the right elbow, back & over the right shoulder & — so that the bandage may form a triangle

both before & behind — the manner of applying it is as follows — hold one end of the roller under the left arm pit, pass it across the breast to the right shoulder, thence perpendicularly downwards around the right elbow, then upwards over the right shoulder, across the back, under the left arm pit — & again by the same rout — So that 'tis making the figure of 8 bandage, one circle of wh. includes the elbow arm & shoulder of the injured side, the other the head shoulder of the sound side. — It is necessary to examine the bandages every day as they are very apt to become relaxed. — This is the more necessary in women in whom the slightest displacement induces deformity.

At the end of 4 weeks the bandages may be removed, tho' a week longer will be better.

Fractures of the Os Humeri.

This bone is subject to fracture at 3 places, at the head, middle, & lower extremity, but most frequently at the middle; they are generally oblique, but sometimes transverse.

When the bone is fractured at the head or neck, sometimes the head is broken off, but generally the fracture happens an inch & a half from the head. — These fractures are not so obvious as when in the middle, the arm however cannot be moved in any direction without giving much pain. By running the hand along the bone, a considerable depression is felt below the point of the shoulder. & if the hand be put in the Axilla, you will there feel a considerable elevation or tumour. In general the lower fragment is displaced & pressed in towards the thorax. The upper fragment returns to its natural situation, & immediately below it a depression is

perceptible similar to the vacuity under the acromion scapula. — Sometimes however notwithstanding the bone be fractured it continues in its natural situation; but the existence of the fracture may be known by one assistant taking hold of the sound & another of the injured elbow or limb & making the extension & counterextension whilst the surgeon taking hold of both extremities grates them upon each other

It is necessary to distinguish a fracture of this part from a luxation of the head of the Humerus, because if a fracture was to be mistaken for & treated as a luxation it wd become a compound fracture tho' simple at first from the fractured ends of the bone irritating the soft parts &c — The fracture may be distinguished first

1 By the depression in the Humerus below the point of the shoulder, & lower than when there is a displacement from luxation. In the

luxation there is a hollow immediately under the acromion process — In a fracture when the head of the bone is connected with the scapula, a depression begins at the upper fragment. The inferior fragment is always directed inwards towards the thorax, & this accident generally arises from falls on the part & causes the Os Humeri to be pushed inward towards the chest. Along with the fractured head of the Os Humeri there is generally considerable contusion of the soft parts around & breaking the vessels causes an extravasation of blood thus increasing the difficulty

2° By passing the hand into the Axilla instead of the round head of the bone its sharp ends will be felt. — In a fracture the protuberance in the axilla is also lower down than in luxation, for in the former the upper fragment is still at-

tached to the acromion Scapula

3 If the hand be applied to the shoulder & the arm moved crepitation will be perceived

If the fracture be very high up, the bone will be seldom much displaced. Its existence may be ascertained by grasping the shoulder & giving a rotatory motion to the arm when you will be sensible of Crepitation

Having ascertained the existence of the fracture, it is not often difficult to replace the lower fragment — Extension & Counterextension are to be made by grasping the inferior fragmt with one hand, & then putting the other in the axilla, the fragments are then to be put in apposition, a simple bandage shd be paſsed round the arm frm the elbow to the shoulder in such a way as to prevent swelling. — You are to prevent the inferior fragmt frm pushing inwards towards the chest by applying a pad of linen or flannel on the side of the chest as high as the axilla, & secured by a bandage to the body.

as splints are useful in keeping the inferior fragment steady by pressing the scapula above, they may be used. Apply three of them & secure them by the remainder of the roller brought down over them — the arm is then to be brought towards the side, & rest upon the pad, & the whole to be bound to the side by a broad roller round the arm & chest. The bandages must be frequently examined as the pad may slip, or there may be too great compression. — —

Union will take place in 4 or 5 weeks but a good deal of stiffness will remain for some months with difficulty in raising the arm & throwing it outwards, owing to the injury wh the deltoid muscle has received. When the upper part of the arm is considerably swelled by Ecchymosis after injury just at the shoulder it is proper to suspect this fracture of the upper extremity of the Humerus. Sometimes a tumefaction takes place at the fractured part fm extravasation of

blood. Dr Physick decidedly disapproves of the practice of Desault in making a large incision to let out extravasated blood, it reduces the injury to a compound fracture. — It is not only painful, but very prejudicial & quite unnecessary as in most instances the blood will be absorbed. If however the swelling shd be great & continue a long time, a small opens may be made & the extravasated blood wh I believe is always fluid, will readily flow out. This shd immediately secured by adh: plaister that union by the first intention may take place.

Fractures of the Middle of the Humerus are either transverse or oblique. The lower fragment is drawn upwards by the muscles & overlapping the superior. The existence of the fracture is easily ascertained, the limb will bend at the fractured part, there will be pain & crepitation on motion &

Treatment. - When there is any displacem^t extension & Counterextension are to be made. One assistant grasps the body below the armpit to steady it. To make the extension an assistant grasps the arm above the Condyls, another makes the Counterextension by gently drawing the opposite arm. But previous to making the extension, a circular bandage is to be applied beginning at the wrist & going up to the elbow; the extension & counterextension is then made, & the fractured bones are put in apposition - The bandage is then to be carried to the shoulder - The reason for passing the bandage f^m the wrist to the shoulder is that all the parts may be equally pressed & supported, for if the bandage was to be applied f^m the elbow to the shoulder only, the forearm w^d be distended &c. - In applying the bandages great care must be taken not to apply them too tight for fear of compressing the

veins & lymphatics, & thus cause a swelling in the arm. — The arm is now to be bent at the elbow joint & the pasteboard splints are to be applied — One on the outside, one inside & one before. These are to be secured by bringing the remainder of the roller from the shoulder down again over the splints & over the arm. The limb is then to be bound to the body by a broad roller carrying it round the elbow, taking care to place a cloth between the fore arm & the body to prevent friction — This method of confining the arm to the body is preferable to supporting it in a sling. — It is proper to remove the dressings & examine the state of the fracture in 8 or 10 days & if any displacement exists, replace the parts & reapply the dressings as at first

If the fracture be oblique the dressings shd be removed once a week regularly. In 4 or 5 weeks union is generally completed.

Fractures of the lower end of the Humerus. — These are transverse or oblique, just above the Condyls. Sometimes the Condyls are seperated by a longitudinal fracture. In other cases only one Condyl is fractured leaving the body of the bone complete. If one condyl only is broken you may move it without moving the body of the bone: If both you will hear the grating.

In transverse fractures of the Humerus at its lower extremity the arm bends just above the Condyls, by rotating it grating of the fragm^ts will be perceived.

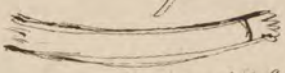
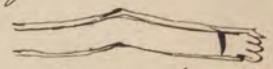
When the Condyls are seperated it may be made evident by pressing one fm above downwards, & the other in a contrary direction.

Treatment. — If there be any displacement make a little extension & replace it. It is easily reduced but difficult to retain in that situation. The fore arm sh^d be fixed

as the inferior fragment will move with it. The joint of the elbow must be motionless. The elbow is to be kept bent as Anchylosis generally takes place & the arm is more serviceable in this position than when extended — Apply a bandage beginning a little below the elbow & going up on the Os Humeri nearly in the form of a figure of 8. Four splints are next to be applied — One on the outside, one on the inside, one over the radius & the other under the Ulna. — The two first shd be long enough to reach beyond the end of the fingers that all motion of the arm may be prevented. The two other splints are to be applied one in the bend of the elbow, the other on the posterior part of the arm. — these need not extend lower than the wrist. — The splints are to be confined by a bandage beginning at the wrist & going up to the shoulder. — The arm is then to be supported in a Sling, or attached to the thorax by a broad roller. — Remove the dressings in

8 or 10 days to see if the parts are in apposition, & to give the elbow joint a little motion (I don't mean extensive motion) In 18 or 20 days the Splints may be taken off & flexion & extension of the arm be performed to prevent anchylosis — this shd be done gently & with care

The mode of treatmt here described is to be employed in all the fractures that occur about the lower end of the Os Humeri, or in the seperation of the Condyls —

With all our care we find the arm disfigured, an acute angle being formed with the arm & fore arm above — the angle is reversed, & a bow as it were formed below. The natural arm is thus  but for the fracture allowing the weight of the forearm to fall down, the angle becomes thus  the by this the strength of the arm is not diminished yet its appearance is objectionable, especially in women

I say to prevent this disfiguration is difficult, but I once did it in a little girl — I applied the splints, bent the arm as above directed, but before union was complete I extended the arm & kept it so some time by 2 curved splints — one above & the other below, taking care not to keep it so for fear of anchylosis — Every 3 or 4 days I removed them & gently bent the arm & thus succeeded. —

Fractures of the Fore arm. —

The bones of the fore arm are often both broken at the same place generally about the middle — Or the extremities are broken & bent into a sort of an angle — the two bones never side on each other — On rotating the arm the grating of the fragments of the bone against each other will be perceived by the Surgeon. The arm also bends at the part & the Patient cannot perform pronation & supination. The bones are rarely parted & seperated too far from one ano-

× between

ther; but not unfrequently deformity arises for the fragments meeting each other at right angles —

Slight extension & counterextension will remove any displacement. One assistant takes hold of the arm just above the Condyles of the Os Humeri, the other takes the hand as if he were shaking hands. The muscles are next to be pressed against the bones to prevent their approaching each other. — The Interosseous ligament prevents the bones from being pressed too far outward. — The flesh being pressed between the bones apply a radiated compress on the fore part of the arm from the wrist to the elbow — The bandage must be loose otherwise it will press the fractured extremities of the bone towards each other. Over this apply 2 stiff broad splints, one on the fore part of the arm & the other on the back part, & retain them by a roller. The splints should ~~not~~ be soaked in water wh will keep

the fractured extremities at a proper distance; & being harder by pressing on the sides of the arm they will keep the soft parts in between the bones & thus keep them parallel. The splints ought be long enough to reach from the bend of the elbow to the ends of the fingers so as to prevent the motion of the hand, then support the arm in a sling. Let the hand be between pronation & supination at the time of setting the bones, otherwise pronation & supination the patient will forever after be incapable of performing. — The cure is generally effected in about 6 weeks. —

One of the bones of the forearm is sometimes fractured alone, the radius most frequently. The Ulna is seldom broken alone, & when so it is by direct violence, as in warding off a blow from a Cudgel. —

Fractures of the Radius. —

occur most frequently just above the wrist

It may also be fractured in the middle. The angular displacement of the fragments will form a depression on one side, & an elevation on the other particularly near the joint of the wrist. There is an inability to perform the motions of pronation & supination

Be careful not to mistake it for a luxation of the bone as acute investigation is necessary. In the fracture you may be sensible of the motions of the wrist. The fractured bones of the lower extremity move along with the wrist, & there is motion at the fractured part. The angle exists beyond the joint. The Styloid Apophysis will be below the deformity.

The treatment is the same as when both bones are broken, & so also if the Ulna is broken alone.

When any of the Metacarpal bones are fractured there will be an angular proje-

tion on the top of the wrist. After you have reduced the fracture apply the dressings. All that is necessary to be done is to apply the roller & keep the fingers extended by a splint wch shd extend fm above the wrist to the extremities of the fingers.

Fractures of the Olecranon.

The Olecranon is often broken off, & is the consequence of falls on the joint of the elbow. The fracture is generally transverse. The existence of this fracture is commonly easily ascertained being so thinly covered with soft parts. A separation of the fragments is distinctly felt, & when taken hold of between the thumb & fingers, the motion produces crepitation. The Triceps extensor muscle draws the short fragmt to wh it is attached upwards producing between it & the lower one an interval more or less perceptible. The Patient is incapable of extending the arm

On moving the upper fragment from side to side, a grating of the fragments will be perceptible.

Treatment. — Extend the forearm & apply a bandage from the wrist to the shoulder. — A strong splint reaching from near the shoulder to the wrist shd be applied on the anterior part of the arm to keep it extended. This is not to be removed under 20 days at this time the arm shd be gently bent & extended to prevent Anchylosis, nt flexion & extension repeat daily till the cure is completed. — Union takes place in about 6 weeks. — Some writers recommend compresses over the Olecranon, but they are never necessary, for a bandage will keep the parts in place until union is effected.

In some cases the skin is thrown into folds or wrinkles, in this case the skin shd-

be pulled up before the application of the bandages to prevent its intervening between the fragments of the bone. The splint is made either of shingle or pasteboard, when of the former glue on a piece of linen & let some tow intervene between it & the arm.

Fractures of the Coronoid process of the Ulna

I never saw but one case of this kind. It occurred in a girl who fell fm a chair on the palm of her hand. At first I thot it was a luxation upwards & backwards. I supposed so because I felt the Olecranon distinctly above & behind the Condyls. By extending & bending the elbow the Olecranon passed fm its situation & I heard a crepitation. On extending the arm again the bones of the forearm were again luxated & every time I heard a crepitation fm un

& & we find much bruising accompanies them

circumstance I have no doubt but that it was a fracture of the Coronoid process of the ulna, & when moved this crepitation took place. — I bent the arm & kept it so till the Patient recovered —

Fractures of the Bones of the fingers rarely occur, they result from immediate violence upon them. Extension & Counterextension are to be made to put the fragments in their proper situation & then apply a pasteboard splint on the inside of the hand to extend the fingers bending the hand to the splint. Recovery takes place in 3 or 4 weeks.

The Fracture of the finger more rarely occurs. — A boy once broke his little finger in half by boxing. — It may be mistaken for a luxation, but the crepitation will make the fracture sufficiently evident. — It ought be attended to in time as the motion of the arm

will be greatly impeded if the fracture be not properly adjusted. The hand will also be stiff & the patient unable to shut it. A Pasteboard or shingle splint is also here to be applied otherwise the motion of the fragments will delay the union & be productive of much mischief.

Fractures of the Lower Extremities

On Bleeding

By this operation is understood the taking away of blood for the relief of disease, It is either general or local. It is general when taken so as to lessen the whole mass of blood. Topical when taken from a part, or in the vicinity of a diseased part for the express purpose of lessening the quantity of blood in that part.

Phlebotomy

The mode of bleeding most frequently practised is opening a vein. This operation is generally performed in veins at the elbow, they there appearing very conspicuous, lying immediately under the skin in the cellular substance. There are 3 veins here which are occasionally opened, but they are not all alike proper. They are the Cephalic on the radial part of the arm – Basilic on the same side as the ulna – & the Median lying between them

The Cephalic may be opened with the greatest safety. it does not discharge freely at first but it will run better after it has been open a short time - it is apt to roll, & on this acct together with its bleed^g less freely is not to be preferred to the Median

The Median may likewise be opened with safety. it bleeds freely. & is commonly sufficiently superficial large - I generally open this vein when I perform the operat^n on this part. -

The Basilic being the largest of all these veins we w^d be tempted to open it, but it is not safe; it runs frequently over the brachial artery, & always very near it, it must be evident then that it w^d be unsafe to open this vein as it w^d be a very easy matter indeed to push the lancet thro' the vein & puncture the artery.

The Apparatus necessary in perform^g this operat^n are first a Fillet - a narrow

piece of Muslin 2 feet long, or a common garter answers very well. This must be applied about ½ way between the elbow & shoulder so that it may not ensnare the skin at the elbow, & also that the Condyles of the Humerus may not prevent its from making pressure on the vein. It must not be applied so tight as to obstruct the passage of blood thro' the Artery.

The good lancet of Fleam must be had here it may be proper for us to consider wh. of these instruments is the best & most safe to perform the operat.n with. The lancet is not at this time so much in use among the Physicians in this city tho' it is a good instrument & does the operat.n neatly but it has the follow.g objections

1 Its easy put out of Order so as to render it unfit to operate with, & when out of order it requires a good & experienced hand to put it in repair again. Cutlers will tell

you that putting this instrument in order is one of their Nicest & most difficult pieces of work - hence every time it gets dull you must send it to a Cutler, or to some experienced Surgeon to get it repaired.

A 2d & greater objection is the danger attend.g its use. To push it into the vein we must necessarily use considerable force & when it passes into the Orifice of the vein the resistance will of course give way; & if great care indeed be not taken it will pass into the other side of the vein or surround.g parts - & if the artery happens to be underneath it may pierce into it & produce Aneurism. All the accidents of this kind that I have seen caused by B'letting on inquiry, I have universally found the lancet was the instrument used in perform.g the operat.n -

The fleam is not liable to these objections, I do not recollect ever hearing of

any accident fr its use — It may be kept in order by almost any person, & upon the whole it is a safe & neat instrument. — I recommend it to yr use whenever you have occasion to perform the operatn

The 3d thing wanting is a bowl or basson. —

4th A compress & roller, the compress to be of linen or muslin doubled up so as to make it of considerable thickness — the roller an inch & a half wide & a yard & half long made of muslin or linen. —

Having all things ready, & the fillet placed round the arm as before directed, you will apply the lancet to the vein & by touching the Spring you will at once plunge it into the vein. — When a sufficient quantity of blood is drawn, you must take off the fillet, press the one side of the orifice with yr thumb, & to

the other apply the compress, you will by this means throw the skin into folds — You may let some of the blood stick to the compress it will act like a plaister —

Confine the compress by the roller, giving it oblique casts so as to form the figure of 8 on the part — Or you may lay it on at its middle & proceed as before & tie its two ends together —

If the Patient is in bed & unable to sit up you must bring him to the side of the bed that the blood may not fall on the bedclothes

Blood may be drawn from the jugular vein & it is a very convenient place where it crosses the Sterno Cleido Mastoideus muscle, as it there appears very conspicuous — First make compression with a fillet & open the vein with a common spring lancet — When a sufficient quantity is drawn take off the fillet & apply a piece of adhesive

plaister to the Orifice.

Bleeding may also be performed in the foot, the veins mostly shew themselves sufficiently plain on the upper part, & may be made tense by applying a ligature on the ankle, & immersing the foot in warm water

Arteriotomy. — This is almost always performed in the Temporal artery, or some of its branches, & nothing is to be done, after having found its situation by its pulsation, but take a Scalpel & cut down to it & divide it — It generally bleeds freely; & when a sufficient quantity has been taken bring the parts together & secure it with a strip of ad: plaister. —

Topical Bleeding. —

Cupping. This is performed with a cupping glass, & an instrument called a Scarifi-

ficator, for the purpose of drawing blood from a particular part. — The Cup must first be held over a lamp, or a piece of paper, impregnated with Spt. Wine burned in it, this rarefies the air in the cup & then it will adhere to the part. Remove the cup in about a minute, cut the part with the Scarificator, & apply the cup again.

Another mode of drawing blood from a part is by Leeches. — They may be made to take hold by letting them creep about on a cloth or board for some time previous to applying them — Moistening the part with milk — & confining them to the part by means of a Wine glass. —

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